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The purpose of this staff paper was to project college enrollment in the State of New York in a form suitable for long-range planning and policy formation. The projected enrollment is divided into full-time undergraduate (for both lower division and upper division), full-time graduate, and part time students. Three different projections are presented: A judgment model (representing the middle trend), a high model (representing a possible upper level of enrollment under favorable conditions), and a low model (representing a rock-bottom enrollment based on a combination of factors operating at minimum levels.

An extensive technical appendix presents basic data, methodology, and work tables.

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Staff Paper:

COLLEGE ENROLLMENT AND HIGH SCHOOL GRADUATES IN NEW YORK STATE PROJECTED TO 1985

(With Emphasis on
Full-Time Undergraduate Enrollment)

By
LOUIS H. CONGER, JR.
Consultant to the Committee

July 1960

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FOREWORD

This staff paper is one of a considerable number prepared by various consultants under the supervision of Sidney Tickton, Staff Director for the Committee, for such use as the Committee may find appropriate in carrying out its task of charting plans and policies for the future course of higher education in New York State. An effort has been made to develop the data in a form that would be helpful to the Committee, and to explain clearly the assumptions made and the reasons behind them.

The projections and opinions are those of the author, and may or may not represent the views of the Committee. Neither do they represent an official view of the U. S. Office of Education, from which the author was on leave during the development of the study.

Acknowledgment is due Philip A. Cowen, Director of the Division of Research in Higher Education, in the State Education Department, whose advice and assistance were invaluable, also Ralph Flinton, Special Assistant to the President of the State University of New York, who gave counsel based on his own experience with enrollment projections. Joseph Lev and Martin Ruther in the Bureau of Statistical Services of the State Education Department helped in preparing the projections of high school graduates broken down by economic areas. Recognition should be given Sidney Tickton for planning the scope of the paper and for his patience during the final write-up. Finally, thanks are due to my superiors in the Office of Education for permission to take leave for this assignment during an especially busy period in Office affairs.

Louis H. Conger, Jr.
Chief, Reference, Estimates, and Projections
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PURPOSE AND GENERAL NATURE OF THE PROJECTION

The purpose of this paper is to project college enrollment in the State of New York in a form suitable for long-range planning and policy formation. With this purpose in view, the projections have been carried to 1985, further than is usual in State analyses. The greater uncertainty of a distant projection is compensated by the value of an extended run of data; so that planning for 1975, for example, can be conducted within the framework of what lies beyond 1975.

For planning purposes, total enrollment, lumping together full-time and part-time at all levels, is too heterogeneous an aggregate to be desirable if it is possible to subdivide into categories related to college load and organizational structure. Therefore, the projected enrollment is divided into 3 categories -- full-time undergraduate, full-time graduate, and part-time. Because of the constant reference to these categories, they are abbreviated as F-T U, F-T G, and P-T to facilitate reading the text.

The F-T U enrollment is further subdivided into 2 levels -- lower division, meaning the first two undergraduate years, and upper division, meaning the remaining undergraduate years. No assumption is made as to how much of the lower-division enrollment is to be handled by 2-year institutions and how much by 4-year institutions; this point is left open for policy determination.

Similarly, the breakdown of future enrollment between public and private institutions is a matter for planning and policy, and is not a part of the projection. It enters, to a minor degree, only in estimating the future migration of college students to and from New York.

The projection may be briefly characterized as a trend projection. This does not mean that statistical artifacts are followed blindly, lead where they will; rather, trends are selected for their structural validity; that is to say, their relationship to causal forces. Three alternative projections are presented, so that the range of possibilities may be gauged.

F-T U enrollment is emphasized in this paper, not only because it is amenable to projection, but also because it is by far the most meaningful category from standpoint of load on faculty and facilities, accounting as it does in 1959 for 88 percent of all F-T enrollment and 67 percent of the total enrollment converted to a full-time basis.

F-T U enrollment is based on high school graduates, which in turn is based on the population of high school graduate age. F-T U enrollment is adjusted for anticipated changes in migration of college students into and out of New York. F-T G enrollment is based on upper division F-T U enrollment. P-T enrollment is based on total F-T enrollment, or alternatively on the growth of population aged 25-34. The methodology, work tables, and basic data are given in considerable detail in a technical appendix, much of which is concerned with projecting population and high school graduates.

The projection of enrollment is not broken down geographically according to the location of the college; this is another matter influenced by policy and plans for the future. However, the F-T U enrollment to 1975 is broken down according to the residence of the student in 11 economic areas of the State, or from outside the State. It may be of some help in planning to have data on where the students will be coming from. The projected figures are full enrollment. Enrollment in advanced 1st professional programs, such as medicine and law, is counted as graduate enrollment. Unclassified full-time enrollment, a very small category, is counted as full-time undergraduate. Certain types of enrollment are not included here -- extension, summer school, short course, correspondence, and T.V. enrollment. Certain types of institutions are not included -- nursing schools unaffiliated with a college or university, non-collegiate schools of business, and the like. Finally, adult education is not included, except as it may be part of the regular degree-credit program of institutions of higher education.

SUMMARY OF PROJECTED ENROLLMENTS

Three different projections are presented -- a judgment model representing the middle trend, a high model representing a possible upper level of enrollment under favorable conditions, and a low model in which low levels of births, high-school graduation rates, and college attendance rates combine to give what might be called a "rock bottom" enrollment in the absence of war, depression, or fundamental re-orientation society's attitude toward higher education.

In a nutshell, F-T U enrollment in New York is expected to double by 1970 and triple by 1985 as compared to the 1959 enrollment, according to the judgment model.

Up to 1970 the high and low projections are virtually equivalent to the judgment model, from a practical standpoint. The reason is that during this period the various assumptions about high school graduation rates and college attendance rates which distinguish the projections are of minor importance compared with the great growth of the population base itself. As may be seen in table 1, the high and low projections of F-T U enrollment in 1970 are each within 10 percent of the judgment projection. Relative to 1959 enrollment, that in 1970 is projected to be 1.8 to 2.2 times as great, with a judgment figure 2.0 times as great.

The difference between the figures in 1970 may be viewed as essentially a difference in timing. The high projection of 395,000 F-T U enrollment in 1970 is reached by the judgment projection before 1975 and by the low projection before 1980, since enrollments are trending strongly upward in all cases.

Table 1.--Projections of Full-Time Undergraduate Enrollment in New York State, Adjusted for Changes in Migration: 1959-1985

(In thousands)

Item	Fall 1959 actual	Fall 1965	Fall 1970	Fall 1975	Fall 1980	Fall 1985
1	2	3	4	5	6	7
JUDGMENT PROJECTION						
Lower division.....	116	188	233	282	325	380
Upper division.....	65	101	125	147	166	189
Total............	181	289	358	429	491	569
HIGH PROJECTION						
Lower division.....	116	199	258	323	384	462
Upper division.....	65	107	137	168	197	232
Total............	181	306	395	491	581	694
LOW PROJECTION						
Lower division.....	116	177	213	247	269	278
Upper division.....	65	96	115	132	141	144
Total............	181	273	328	379	410	422
	Ratio of projected figure to 1959 actual					
JUDGMENT PROJECTION						
Lower division.....	1.0	1.6	2.0	2.4	2.8	3.3
Upper division.....	1.0	1.6	1.9	2.3	2.6	2.9
Total............	1.0	1.6	2.0	2.4	2.7	3.1
HIGH PROJECTION						
Lower division.....	1.0	1.7	2.2	2.8	3.3	4.0
Upper division.....	1.0	1.6	2.1	2.6	3.0	3.6
Total............	1.0	1.7	2.2	2.7	3.2	3.8
LOW PROJECTION						
Lower division.....	1.0	1.5	1.8	2.1	2.3	2.4
Upper division.....	1.0	1.5	1.8	2.0	2.2	2.2
Total............	1.0	1.5	1.8	2.1	2.3	2.3

SOURCE: Tables H3, H6, and H9.

Lower division is the 1st 2 years of college; upper division is the rest of the undergraduate program.

The models diverge to a greater extent in the more distant future, especially when the low birth assumptions begin to affect the low model. Even so, as late as 1980 a lapse of 5 years suffices to bring the judgment model up to the high model.

In the fall of 1985, twenty-six years after the latest known year (1959), F-T U enrollment is projected to be 3.1 times the current figure, with a range of 2.3 to 3.8 times the current figure.

Thus, even under the most conservative circumstances, F-T U enrollment is expected to double by 1975, and more likely doubling will occur by 1970. Although it is not the purpose of this paper to consider ways and means of handling the load, the thought of such enormous increases is sobering indeed. The situation differs in two important respects from the surge of enrollment in the colleges after World War II -- first, the earlier surge was temporary and enrollment dropped off substantially after a peak; whereas the coming surge continues upward as far as the projection goes. Second, after the war the colleges had a head start, so to speak, in terms of unused facilities. The colleges do not now enjoy this advantage because in most institutions F-T U enrollment in the fall of 1959 was the highest ever.

Lower division F-T U enrollments are about twice as large as upper division F-T U enrollments at the present time, as shown in table 1. Even though the assumptions about future college enrollment, which are explained later, tend to favor the lower division, still the ratio of 2 to 1 is roughly maintained throughout the projection.

Full-time graduate (F-T G) enrollment is given in table 2. The projections are directly proportional to upper division F-T U enrollment in the preceding 4 years. Because of this time lag, the growth rates for F-T G enrollment trail somewhat behind those for upper division F-T U enrollment as given in table 1. The number of graduate students, of course, is much less than the number of upper division students.

Part-time college enrollment at the present time is composed predominantly of persons older than the typical F-T U age of 18-21, who are attending in metropolitan areas during evenings and on Saturday, who take courses at the undergraduate and unclassified level, and who hold full-time jobs. Aside from these characteristics, very little is known about the part-time students, and their programs of study, on which to base a projection. In order to provide a projection of total college enrollment, the P-T enrollment is simply taken as equal to the full-time enrollment in both the judgment and the high model. This corresponds to present conditions. In the low model, a much smaller figure is obtained by assuming that P-T enrollment increases in proportion to the increase in the U.S. population aged 25-34.

Table 2.--Projections of Full-Time Graduate Enrollment, as a Constant Proportion Relative to Full-Time Upper Division Enrollment (No Adjustment for Changes in Migration of College Students); New York State: 1959-1985

(In thousands)

Item	Fall 1959 actual	Fall 1965	Fall 1970	Fall 1975	Fall 1980	Fall 1985
1	2	3	4	5	6	7
JUDGMENT PROJECTION....	24.6	34	44	52	60	66
HIGH PROJECTION........	24.6	35	48	58	69	79
LOW PROJECTION.........	24.6	33	42	47	53	54
	Ratio of projected figure to 1959 actual					
JUDGMENT PROJECTION....	1.0	1.4	1.8	2.1	2.4	2.7
HIGH PROJECTION........	1.0	1.4	2.0	2.4	2.8	3.2
LOW PROJECTION.........	1.0	1.3	1.7	1.9	2.2	2.2

SOURCE: Table J1.

NOTE: The constant proportion is 10 percent of full-time upper division enrollment in the preceding 4 years (see table J1).

Graduate enrollment includes advanced first professional courses, such as medicine and law, consistent with the 1958 and 1959 fall enrollment statistics.

Table 3 shows the P-T enrollment, and combines it with F-T U and F-T G enrollment to give the total enrollment. The total enrollment is projected to increase from 401,300 in 1959 to 804,000 in 1970 (range 587,000 to 886,000) and to 1,270,000 in 1985 (range 823,000 to 1,546,000).

FACTORS AFFECTING FULL-TIME UNDERGRADUATE ENROLLMENT

The relationship of F-T U enrollment to high school graduates is the most important single factor in the entire projection. Because of its critical nature, a review of various causative forces bearing on this factor is appropriate before describing the particular values used in the projection.

(1) The educational status of parents has been shown in many studies to be one of the major determinants of college attendance. Therefore, the fact that the educational attainment of the population parental age has been steadily rising, as shown in the text table below, becomes highly significant. Note that by 1980, two-thirds of the population aged 35-44 will have completed high school. Almost a quarter of this group will have completed 1 or more years of college. The percent of parents in 1980 who have completed 1 year of college or more will be about 40 percent higher than it is now, in 1960. The impetus toward college deriving from these steadily rising educational attainments in the parental group may well give pause to college trustees who are thinking in terms of a limited expansion, since their own alumni are among the educated groups whose children will be seeking admission.

Year	Educational attainment of U.S. population aged 35-44	
	Percent completing 1 year of college or more	Percent completing 4 years of high school or more
1	2	3
1940 1/	13.1	28.6
1950	15.5	38.1
1960	17.2	51.8
1970	21.1	60.0
1980 (Est.)	23.2 to 24.8	66.1 to 69.5
Percent increase, 1960 to 1980	35 to 44	28 to 34

SOURCE: U. S. Bureau of the Census, Series P-20, No. 91 (Jan. 12, 1959).

1/ 1940 data for age 35-44 assumed to be the same as 1950 data for age 45-54.

Table 3.--Projected Enrollment in New York State: 1959-1985
(In thousands)

Item	Fall 1959 actual	Fall 1965	Fall 1970	Fall 1975	Fall 1980	Fall 1985
1	2	3	4	5	6	7
JUDGMENT PROJECTION						
Full-time: undergraduate.	180.9	289	358	429	491	569
graduate......	24.6	34	44	52	60	66
Total.......	205.5	323	402	481	551	635
Part-time...............	195.8	323	402	481	551	635
TOTAL..................	401.3	646	804	962	1,102	1,270
HIGH PROJECTION						
Full-time: undergraduate.	180.9	306	395	491	581	694
graduate......	24.6	35	48	58	69	79
Total.......	205.5	341	443	549	650	773
Part-time...............	195.8	341	443	549	650	773
TOTAL..................	401.3	682	886	1,098	1,300	1,546
LOW PROJECTION						
Full-time: undergraduate.	180.9	273	328	379	410	422
graduate......	24.6	33	42	47	53	54
Total.......	205.5	306	370	426	463	476
Part-time...............	195.8	193	217	268	318	347
TOTAL..................	401.3	499	587	694	781	823

Full-time undergraduate enrollment adjusted for changes in migration. Full-time graduate enrollment proportional to full-time upper division enrollment of preceding 4 years. Part-time enrollment equal to full-time enrollment in basic and high projections; proportional to U.S. population aged 25-34 in low projection.

(2) The ability of students and parents to finance college attendance is a factor, of course. Entirely aside from the question whether these costs will rise faster than personal income, there are several considerations in New York which may be expected to ameliorate the rise as compared with many other States. To begin, college fees are already high in New York owing to the high proportion of private institutions, so that the leeway for increase is less; furthermore, the recent expansion in college enrollment has been predominantly of the lower cost community college type. Finally, New York State has been contributing less to higher education, relative to its wealth, than many sister States, implying the potentiality of greater State effort with a consequent advantage to parent and student.

College attendance among graduates whose parents are in the upper socio-economic levels is higher than among other groups. This is a consequence of both financial ability and motivation, and perhaps accessibility plays a part, since these levels cluster in urban areas.

If all seniors in New York in the spring of 1958 had planned to go to college at the same rate as seniors of equal intellectual ability whose fathers happened to belong to the professional, executive, proprietor and managerial occupations, then the total number of seniors planning to attend would have jumped 28 percent. This is the upper limit of the increase in college attendance that could have been expected that year by lowering financial barriers for all seniors to the levels that apply to the 37 percent of all seniors whose fathers are in the favored occupations. The quality of the college-going group in terms of intellectual ability would have been unchanged.

(3) The intellectual ability of the population is clearly a factor affecting college attendance. The question of selection of college students is a controversial one -- who should go to college, what types of program should be offered in colleges, how may barriers to attendance be overcome for those who qualify? Without taking a stand on these issues, it is possible to analyze the present ability of college goers in New York and to estimate the greatest increase in attendance that is possible without lowering the average ability.

In the spring of 1958, 39 percent of the seniors planning to attend 4-year or 2-year colleges scored in the top 2 deciles of an ability test, as compared to 23 percent of all seniors who did so. At the other end of the ability scale, 15 percent of the college-going group scored in the bottom 4 deciles, as compared to 33 percent of all seniors. The college-going group is clearly superior to the group of all seniors, but more students could go to college without lowering the average ability of those going. In fact, it would have been possible for a maximum of 29 percent more seniors to go to college without lowering the average ability. If every senior in the top 2 deciles had gone to college, the total college-going group would have increased 12 percent.

To anticipate, in the judgment model projection, F-T U enrollment relative to high school graduates is 19 percent higher in 1985 than it is now. There are evidently enough graduates of ability not now attending to permit such an increase to be made without lowering the average level of ability in the college-going group. Whether this possibility is realized will depend on many factors that cannot be analyzed in detail.

The high model projection in 1985 results in a F-T U enrollment 44 percent higher than now, relative to high school graduates. This cannot be accomplished without lowering the average intellectual ability of the college students.

The foregoing calculations assume no change in the ability of high school graduates as a whole; however some reduction may be reasonably expected as a result of reducing dropouts; the overall effect will be slight because the additions are few compared to the total number now graduating.

(4) The manpower needs of society are related to college attendance rates, but there is the fundamental question of which determines which -- does the labor force pattern set limits on the number of college-trained persons that can be absorbed, or does the availability of college-trained persons determine the labor force pattern? The viewpoint adopted here is that labor force patterns at the present time are clearly limited by the availability of college-trained personnel, so that the current proportion of the labor force in occupations requiring college training is too low a basis for estimating future demands.

The violent fluctuations in engineering enrollment, as the result of changing publicity about the demand for engineers, did not seem to affect the college attendance of men -- it apparently shifted them into or out of the field of engineering as a college major. Likewise in the case of women, labor force requirements are certainly not the principal factor of college attendance, since about half of the women who have completed 1 or more years of college are not in the labor force. In fact, the vocational value of a college education has never been accepted as the sole value of college. The whole liberal arts tradition is against a narrow vocationalism.

The college attendance rates projected here will produce more college graduates relative to the labor force, or even to white collar occupations, than is the case now. This, however, is exactly what has been happening over the long run.

(5) The capacity of institutions to handle the load is sometimes suggested as a limiting factor on future enrollments. Certainly this has been true in certain specialized fields such as medicine. On the other hand, the experience of New York and the rest of the Nation immediately after World War II was essentially an illustration of the demand determining the capacity rather than vice versa. The difference now is that provision must be made for a long-continued increase, not a temporary bulge of enrollment.

The viewpoint adopted here is that where the demand builds up, a way will be found; though not necessarily by providing proportionately more staff and facilities. Just how the load can be handled is the task of other consultants.

(6) Other factors affecting college attendance are availability of local opportunities, variety of college offerings, and counseling and guidance in the schools before college. Every one of these factors is moving in the direction of stimulating college attendance.

Summing up, the foregoing discussion has set forth stimulating and limiting factors on future college enrollment rates. The key issue is whether the practical problem of providing the money and manpower to do the job, when the population to be served increases so greatly, will halt or even reverse the long term trend in college education for a greater proportion of young people. The assumption underlying the projections is that the commitment to higher education in the United States is so fundamental, and our resources so great, that the necessary allocation will be forthcoming.

TRENDS IN COLLEGE ATTENDANCE RELATIVE TO HIGH SCHOOL GRADUATES

Attention having been given in the preceding section to a non-quantitative discussion of the factors affecting college enrollment, it is time to see what the numerical trends have been. Several lines of evidence are examined.

(1) For the Nation, the population aged 18-19 enrolled in college has been a rising percentage of the same population group (cohort) enrolled in school two years earlier, at age 16-17, as shown in the text table below.

Year (October)	Population aged 18-19 in college as percent of population aged 16-17 enrolled in any school two years earlier
1952	24.5
1953	26.9
1954	26.3
1955	25.6
1956	30.1
1957	31.7
1958	34.2

SOURCE: U. S. Bureau of the Census publications, Series P-20, nos. 45, 52, 54, 66, 74, 80, 93. Percents are used as the basic data from the publications rather than numbers, in order to reduce the effect of population revisions between years.

This percentage moves parallel to the percentage of high school graduates attending college full-time 1/; therefore, the data indicate a marked upward trend for the full-time undergraduate (or lower division) enrollment as a percent of high school graduates. The data in the table show a trend which increases 1.5 percentage points a year during 1952-1958 according to a least square line -- a very strong increase for a percentage ranging from 24 percent to 34 percent.

1/ The group aged 18-19 in college is almost entirely on a full-time basis (93% full-time in 1958); the group aged 16-17 in any school two years earlier is proportional to high school graduates, because most are approaching graduation, and the few who have already graduated and are enrolled in college are properly counted among graduates.

(2) First degrees 2/ awarded by New York colleges during the four years 1955 through 1958 amounted to 28.4 percent of the high school graduates in New York four years earlier. Going back 17 years, first degrees in 1937 through 1940 (just before World War II) amounted to 21.6 percent of high school graduates 4 years earlier. Thus, the ratio increased a third over the period, indicating an upward trend over the long range in the percentage of high school graduates finishing college.

(3) Unfortunately, data on full-time college enrollment in New York State are not available back before World War II, so that long range comparisons cannot be made. The data available are shown in the text table below, in which full-time enrollment is expressed as a percent of high school graduates (4 years of high school graduates for enrollment in 4-year colleges; 2 years of high school graduates for enrollment in 2-year colleges). The projection is based on ratios of this type.

Year (Fall)	4-year colleges		2-year colleges
	Full-time undergraduates as percent of 4 years of high school graduates	Total full-time as percent of 4 years of high-school graduates	Total full-time as percent of 2 years of high-school graduates
1	2	3	4
1950..........	N.A.	37.1	4.9
1951..........	N.A.	34.7	4.5
1952..........	N.A.	33.6	4.8
1953..........	N.A.	34.3	5.0
1954..........	N.A.	35.1	5.5
1955..........	N.A.	36.4	6.1 a/
1956..........	32.8	N.A.	5.6 a/
1957..........	33.1	38.1	6.0
1958..........	32.4	37.4	6.6
1959..........	32.3	37.2	6.9

SOURCE: Table G2, technical appendix.

a/ Rochester Institute of Technology shifted from a 2-year college in 1955 to a 4-year college in 1956, causing an apparent drop in 2-year enrollment relative to high school graduates.

The simplest and most clear-cut trend is for 2-year colleges, in which full-time enrollment as a percent of high school graduates rises very steadily, from 4.5 in 1951 to 6.9 in 1959. Excluding the non-comparable change from 1955 to 1956 (see table footnote), the annual increase is .4 a year. The steadiness of this rise, and the fact that 2-year colleges and programs represent the growing edge in New York, makes this increase of .4 a year the basis of the judgment projection.

In the 4-year colleges matters are not so clear-cut. Only a short trend of 4 years is available for F-T U enrollment as a percent of high school graduates. The pattern is irregular, but tends toward a slight decline amounting to .5 percentage points over the period. However, this cannot be taken at its face value because the more extensive data on total F-T enrollment (including graduate level) in 4-year colleges as percent of high school graduates show this same slight decline after 1957, but in addition show a substantial rise from 1952 to 1957 (1952 was the low point after the veteran surge dropped). Thus, the recent static situation for F-T U enrollment in 4-year colleges as a percent of high school graduates almost certainly follows a period of significant increase.

(4) Two supplementary sources of data indicate in a general way that the percent of New York public high school graduates entering college has been increasing recently. A survey of the intentions of high school seniors in the spring of 1958 showed a higher percent planning to attend college than did a similar survey in 1956. The reports of public high school principals on the graduates enrolled in college the year following graduation likewise indicate an upward trend in college entrance.

(5) On the other hand, the National statistics on the educational attainment of the population show that for a given cohort, the percentage of persons completing 4 years of high school who also complete one or more years of college has been constant over the long run. This is apparently contrary to the finding given in Item 1 above. The probable reason is that attainment figures reflect part-time college attendance several or many years after high school graduation; such attendance is not included in Item 1 data, and should not be included in measuring full-time enrollment. This interpretation is supported by the gradual increase in the attainment of a cohort as the years pass, especially at the college level.

PROJECTION OF FULL-TIME UNDERGRADUATE ENROLLMENT

A preceding section has discussed reasons for believing that the forces which have caused F-T U enrollment to rise relative to high school graduates will continue to be effective in the future. The amount of the rise is determined from the data on recent trends in New York given just above.

The basic foundation is the continuous steady rise in 2-year colleges, amounting to .4 percentage points a year. There is ample reason to expect a continuation of this trend --in spite of the rapid rise, the extent to which the program has yet developed in New York is far from reaching the levels in other States. In addition, the extension of 2-year programs taps new sources of students rather than diverting students from other colleges, not only because of the type of program offered, but also because these institutions are often located in areas not previously served.

Judgment Projection: The foregoing increase of .4 percentage points a year, solidly established in the trend for 2-year institutions, is assumed to continue, and is reflected in lower division enrollment. In addition, a small increase in upper division enrollment is allowed, in line with the long range trends previously discussed. Considering the previous trends, the assumption is conservative, especially for the upper division.

The method of calculation is to split the .4 and apply it as follows:

.3 percentage points increase a year in 2-year programs, and
.1 percentage points increase a year in 4-year programs.

Note that the projection changes the concept to 2-year programs and 4-year programs, rather than 2-year institutions and 4-year institutions. The purpose is to avoid specifying the type of institution in which the increase is to occur, and to deal instead with upper division and lower division enrollment.

The details of calculations are given in the technical appendix 1/. Adjustments are then made for changes in migration of college students in and out of State, as explained later, in order to get the figures given in table 1.

High Projection: The high projection assumes a growth rate in the 4-year program, relative to high school graduates, that is more in accord with National enrollment trends and New York first degree trends, as discussed previously. For 2-year programs, the growth rate is assumed to be equal to that of 2-year colleges in recent years. To be precise, it is assumed that F-T U enrollment relative to high school graduates will increase:

.4 percentage points a year in 2-year programs, and
.4 percentage points a year in 4-year programs.

By way of comparison, the annual increase of .8 percentage points 2/ for lower division enrollment assumed here is about half the annual increase of 1.5 percentage points in a National series measuring a similar relationship during the post-war period (see Item 1 of the preceding section).

1/ In brief, the foregoing increases are added to current percentages (5.9 for 2-year programs and 32.6 for 4-year programs), and the resulting percentages are applied to 2 years or 4 years of high school graduates.

2/ Only approximately .8, because more than half of the 4-year program enrollment is assigned to the lower division, also the 4 years of high school graduates does not split into two exactly equal 2 year groups.

While the growth rates assumed here have been exceeded in recent years, their continuation for 26 years leads to a rate of college attendance which would require circumstances favorable to college attendance, such as ample facilities to handle the enrollments, a wide variety of programs, and encouragement of college attendance by counseling and financial assistance to students.

Low Projection: The low projection not only applies lower percentages to the high school graduates, but also the projection of high school graduates itself is lower than the basic projection used for both the judgment and high projection. This combination of minimum expectations in all factors results in a long-term projection of F-T U enrollment that represents, in the author's opinion, the absolute minimum to expect over the long run, barring a period of war, depression, or drastic change in society's aspirations and expectations.

The projection assumes that growth in 2-year programs will be only half that in recent years, and that no growth at all will occur in 4-year programs. To be precise, it is assumed that F-T U enrollment relative to a low projection of high school graduates will increase:

.2 percentage points a year in 2-year programs, and
no growth in 4-year programs.

F-T U Enrollment Compared With Population: Often enrollment is compared with population of age 18-21, or some other college-age group. In this paper, population has not been projected directly, but a figure corresponding to 4 years of college-age population may be derived from the high school graduates. The relationship of F-T U enrollment in the several projections to this population is shown in the table below.

Year (Fall)	Ratio: F-T U enrollment/4 years of population		
	Judgment projection	High projection	Low projection
1	2	3	4
1959 actual..............	24.4%	24.4%	24.4%
1965.....................	27.6	29.2	26.1
1970.....................	29.5	32.4	27.1
1975.....................	31.5	35.9	27.9
1980.....................	33.4	39.4	28.6
1985.....................	35.4	43.0	29.4

SOURCE: Appendix table I3.

These figures combine the increased rate of college attendance among high school graduates with the increased percentage of the population graduating from high school. Owing to the method of calculating the population, the figures show the trend, but the actual magnitude is not exactly the same as would be obtained with population aged 18-21. The trend from 1959 to 1985 may be expressed in several ways:

a 45 percent increase in the base figure, with a range of 20 percent to 76 percent; or

an average increase of .4 percentage points each year, with a range of .2 to .7 points; or

an annual increase of 1.4 percent for 26 years, with a range of .7 percent to 2.2 percent.

Unfortunately, the lack of actual data on F-T U enrollment prevents extension of the trend back before 1956, when the ratio was 23.7 percent.

Adjustment for Migration Changes: As enrollments mount throughout the country, it is reasonable to expect that publicly-supported colleges will limit non-resident enrollment, particularly at the undergraduate level. Although private colleges may not impose limits on enrollment from other States, the growth rate of private college enrollment is expected to be less than that of total enrollment in all colleges. Both of these factors tend towards a reduction in out-of-State enrollment as a part of total enrollment.

Since New York is a debtor State for undergraduate migration, the prospect is that future enrollment in New York colleges will have an extra component made up of students who under present circumstances would be enrolled elsewhere. Allowance for this change is difficult to quantify, but for the purpose of making an estimate it is assumed here that migration of undergraduate students across State lines to public colleges in 1965 and later years will be the same number as in 1958, the last time it was measured. It is further assumed that migration of undergraduates to private colleges will increase, but only at half the rate that total enrollment increases. Both these adjustments are applied to F-T U enrollment, resulting in an increment to F-T U enrollment in New York colleges in the fall of 1985 of 18,600 to 38,800, with a judgment value of 29,500. The technical appendix gives a fuller discussion and shows the details of the calculations (tables H2, H5, and H8).

Origin of Students: The areas from which the projected students originate can be roughly approximated by making use of statistics on the college attendance plans of high school seniors. The results, for the judgment projection to 1975, are given in table 4. The enrollments are divided into lower and upper division, not only because the growth rates for the two levels are different, but also because the split between the levels varies among the areas. In making the estimates, it has been assumed that attendance rates will grow the most where they are low at present, and conversely attendance rates will grow the least where they are high at present. Full details of the rather elaborate calculations are given in Section F of the technical appendix.

Table 4.--Full-time Undergraduate Enrollment in New York Institutions Estimated Distribution 1/ by Residence of Student's Home; Judgment Projection (adjusted for changes in migration): 1959-1975

Student's Residence	Fall 1959			Fall 1965			Fall 1970			Fall 1975		
	Lower Division	Upper Division	Total	Lower Division	Upper Division	Total	Lower Division	Upper Division	Total	Lower Division	Upper Division	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
New York Metropolitan Area.......	65,900	36,900	102,800	110,000	59,400	169,400	135,700	72,500	208,200	163,100	85,000	248,100
Binghamton..........	1,900	800	2,700	3,200	1,400	4,600	3,900	1,800	5,700	4,800	2,100	7,000
Capital District....	3,500	1,700	5,200	6,300	3,000	9,200	7,900	3,800	11,700	9,800	4,500	14,300
Elmira.............	1,500	700	2,200	2,400	1,200	3,600	3,100	1,500	4,500	3,800	1,800	5,500
Mid-Hudson..........	2,800	1,200	4,000	5,100	2,200	7,300	6,900	3,100	9,900	8,800	3,800	12,600
Mohawk Valley.......	2,100	1,000	3,100	3,500	1,600	5,100	4,500	2,100	6,600	5,600	2,500	8,100
Niagara Frontier....	8,000	4,200	12,100	13,000	6,700	19,700	17,600	8,900	26,500	22,000	10,900	33,000
Northern............	1,800	900	2,700	2,900	1,300	4,300	3,900	1,800	5,700	4,800	2,200	7,000
Rochester...........	4,700	2,500	7,200	8,900	4,500	13,300	11,800	5,900	17,700	15,300	7,400	22,700
SW Gateway..........	1,400	600	2,000	2,300	1,000	3,300	2,900	1,300	4,200	3,400	1,500	5,000
Syracuse...........	3,500	1,800	5,300	6,100	3,000	9,100	8,000	3,900	11,900	10,100	4,900	15,000
Total residents.....	96,900	52,300	149,300	163,800	85,200	249,000	206,200	106,500	312,700	251,500	126,800	378,300
Residents of other States..........	18,900	12,600	31,600	24,300	16,200	40,500	27,400	18,200	45,600	30,500	20,400	50,900
Total in New York...	115,900	65,000	180,800	188,100	101,400	289,500	233,600	124,700	358,300	282,100	147,100	429,200

NOTE: Details may not add to totals because of rounding.

SOURCE: Tables F5, F6, F7, F8, H2.

1/ Distribution of college attendance and out-of-State migration from economic areas is based on a sample survey of college plans of 1958 high school seniors. Increased attendance rates of judgment projection distributed to areas in inverse proportion to initial rates; thus narrowing regional differentials.

PROJECTION OF F-T GRADUATE ENROLLMENT

Although compared to the number of F-T undergraduate students the number enrolled full-time in graduate programs is small, amounting to only 12 percent of total F-T enrollment, the graduate enrollment takes on an importance beyond its mere numbers because it represents the production of highly trained manpower. It is also important as a load factor in college planning because graduate programs require faculty members of high caliber, and often require expensive equipment and facilities.

The projection of F-T G enrollment is based on upper division F-T U enrollment. It is obvious that graduate enrollment must relate in some way to undergraduate enrollment in preceding years, since graduate enrollment is drawn from the pool of those who have completed undergraduate work. It is not at all clear, however, just what is the precise nature of the relationship even at present, owing to the scantiness of data. In fact, only since 1957 have figures for F-T G enrollment been compiled for New York State. The relationship adopted here, that F-T G enrollment is 10 percent of upper division F-T U enrollment in the 4 preceding years, is thus somewhat arbitrary. The figure of 10 percent corresponds to current conditions.

Other bits of evidence consistent with the above basis for projection are: (1) the fact that full-time students in general are decidedly younger than part-time students, so that F-T G enrollment is concentrated in the 5-10 years following undergraduate work, and (2) masters' degrees, which make up the bulk of graduate degrees and presumably indicate the bulk of F-T G enrollment, follow the trend of 1st degrees with little time lag.

Alternative bases which might be used to project F-T G enrollment are the expected capacity of institutions enrolling such students, or labor force demands in specific occupations requiring advanced training. In either of these approaches, the projection of the base offers formidable difficulties.

The projected figures are rather conservative relative to college-age population because upper division enrollment itself is projected conservatively, except in the high projection. The growth rate of F-T G enrollment lags behind that for F-T U enrollment because of the time lag relationship between them. Nevertheless, F-T G enrollment is projected to be double the 1959 figure of 24,600 sometime during the period 1970-75, or a few years later.

At the doctoral level, students enrolled full-time migrate between States to a much greater extent than do undergraduate students. Many come to New York because of the enviable strength of its universities; in this sense the plans developed in New York are an important part of regional, or even National, plans. Since F-T G enrollments are mainly at the masters' level, the projected enrollments for all F-T G students cannot be considered any more than an indication of what might happen at the doctorate level.

PROJECTION OF PART-TIME ENROLLMENT

In this paper all part-time enrollment is lumped together, without distinction as to undergraduate, graduate, classified, or special. These distinctions are not consistent in the actual reported data, and until much more is known about the programs of these students, there would be difficulty in making use of the information if the breakdowns were projected.

Part-time enrollment is projected to be the same as total full-time enrollment, in both the judgment and the high projection. This represents current circumstances in New York, and is projected on the argument that capacity established for F-T enrollment makes available an equal capacity for P-T enrollment. In the case of the low projection, P-T enrollment is assumed to grow in proportion to the growth in the U. S. population aged 25-34; this age group includes the bulk of P-T students.

Nearly all the P-T enrollment is concentrated in the metropolitan centers of the State, particularly New York City. No special allowance is made for this fact in the projection.

PROJECTION OF HIGH SCHOOL GRADUATES

In conclusion, attention is given to high school graduates, on which the F-T U enrollment has been based. There are two projections of high school graduates -- a basic projection which is used for both the judgment and high projection of F-T U enrollment, and a low projection of graduates used for the low projection of F-T U enrollment.

The projections of high school graduates are based on a population age-group corresponding to the age of high school graduates; this population is determined from school census population aged 7-14, actual birth data, and projected births. In New York City, school enrollments are used instead of school census data.

There are really only two critical points:

(1) The projected births are assumed to grow proportionately to the Census Bureau projection for the Nation at 1955-57 birth rates, for the basic projection of graduates; and are assumed to remain constant at the 1959 figure for the low projection of graduates.

(2) The proportion of the population graduating from high school is taken to increase from a 1959 value of 69.3 percent to a 1985 value of 83.3 percent. For the low projection of graduates, the increase in this percentage is only half as much, to a 1985 value of 76.3 percent. Details are given in table II of the appendix.

Data on the educational attainment of the population show that the percentage completing 4 years of high school has been increasing approximately linearly for many years. Of course, some tapering off is to be expected as the rate approaches the absolute maximum of 100 percent. The rates actually used in the projection begin with an annual increase of .8 percentage points and taper off to .4 at the end. The average over the 26-year period is an increase of .54 percentage points each year.

By way of comparison, the rate of increase in recent years has ranged from .9 to 1.1 percentage points a year for Upstate New York (the last 8 years), New York State (the last 4 years), and the Nation (the last 15 years). The Census Bureau has projected rates for the next 10 years corresponding to an average annual increase of .34 percentage points a year, or alternatively a lower rate of .26 percentage points a year.

The result of increasing the percentage of the population graduating from high school is to make the number of high school graduates in 1985 in the basic projection 20 percent more than if the percentage had been kept constant. In the low projection, the number of graduates is 10 percent more.

The appendix gives a full discussion of the process of projecting the high school graduates; the discussion here has been limited to those figures which are used to project college enrollment.

R-6-17

This should be appended to basic study by Conger. (Do not remove)

COLLEGE ENROLLMENT AND HIGH SCHOOL GRADUATES IN NEW YORK STATE PROJECTED TO 1985; WITH EMPHASIS ON FULL-TIME UNDERGRADUATE ENROLLMENT

Louis H. Conger, Jr. July 1960

TECHNICAL APPENDIX -- Basic data, methodology, work tables

The purpose of this appendix is to provide the work tables that lie behind the text tables, to explain in detail the calculations, to discuss the reasons for choosing one procedure rather than another, and to comment on other technical matters related to the methods and the peculiarities of the basic data. Except for the regional breakdowns and a few other items, the basic raw data are given. Most of the calculations could be duplicated by the careful reader who might be so inclined.

It is important for the novice projector to realize that the methods used here are not necessarily the best in another State where the basic data are different, or in a projection intended to produce a different combination of statistics. The problem of the projector is to combine his resources of data most powerfully to the end in view. Certainly much simpler methods would have sufficed had the goal been merely the projection of a State total; however a certain amount of projection had to be done for subdivisions of the State. Then, too, it is unusual for one part of the State (New York City in this instance) to be projected by methods different from those used for the rest of the State.

Simplicity of method is always a desideratum - it reduces error, and makes it possible for the users of the projection to judge for themselves the assumptions and outcomes. This projection can hardly be simple, but the elaboration is necessitated by the numerous breakdowns which were to be provided and by the unusually distant target date of 1985.

A projection is like an iceberg - most of the work below the level of visibility. Anyone undertaking a projection in higher education should plan to spend one-half to three-quarters of his time getting the actual basic statistics in order, checking one series against another, and studying the consistency of trend. Graphs of data and ratios are indispensible in these phases.

The appendix tables are taken up in order. Comments about methodology, and basic data are inserted when first pertinent.

A. Projection of high school graduates, Upstate New York (excluding Nassau, Suffolk, Westchester, and Rockland counties).

Table A1 gives the basic data on the resident minors (i.e., noninstitutional population living within the area) by single years of age attained as of August 31. The source is the census reported annually in each school district. The quality of the school census data has been a matter of debate; studies have shown that the ages 7 to 15, used here, are the best reported, probably because a high percentage of these children are known to the school authorities because of their enrollment in the public schools. The coverage of children below age 7 and above age 15 is definitely incomplete, as shown very clearly by following cohorts from year to year. These ages are not used here.

A comparison of the school census of August 31, 1950 with the population reported by the 1950 decennial Census for the Upstate area is encouraging. When the school census figures are adjusted to an April 1950 date (by averaging the number aged 14 and 15 in August to get the number aged 14 in April), the school census figures differ from the decennial census figures by only 0.1% for ages 7-9 as a group, likewise by 0.1% for ages 10-13 as a group, and by 0.7% for age 14. For older or younger ages, the match is not good because the school census coverage of children outside the 7-15 range is incomplete, but since such figures are not used in these projections, the point is immaterial.

Projections of high school graduates may be based on either population by age or enrollment by grade. The decision to use population by age for the Upstate projection was inevitable because a long series of satisfactory annual figures on population by age and by county was available; whereas the enrollment by grade is available only for public schools and is not available broken down by county. The use of population as a base has the desirable advantage that the projected graduates may be compared with the appropriate population; in using enrollments there is no information about the percentage of the population completing high school. Unfortunately, this advantage was to some extent nullified by the impossibility of using a population basis in New York City. A population base is convenient also when births are to be worked into the projection.

A projection based on grade enrollments has the advantage that short-term 2 or 3 year projections of high school graduates (or enrollments in individual grades) are generally better than population-based projections, owing to the fact that high school graduates are nearly all in 11th grade the preceding year, whereas high school graduates are a mixture of various ages.

For long range trends, however, the population base is probably superior to the grade base, especially as a safeguard when projecting a figure which approaches 100% of the appropriate population.

When satisfactory annual data on population by age are unavailable, it is possible to use decennial census data, together with annual birth data, to construct a population figure by surviving these components year by year, and applying a migration factor. The difficulty lies in the migration factor; this can be known only for the period preceding the last decennial census (1950 as of this writing). The migration ratios from birth to age 15 thus cover the period 1935 to 1950 insofar as actual data are concerned; or alternatively the period 1945 to 1950 for migration from birth to age 5, and 1940 to 1950 for migration from age 5 to age 15. The necessity of relying on these older periods for determining migration is the great drawback of using births and decennial census data alone to project high school graduates. Of course, the migration factor is less important for an entire State than it is for subdivisions of the State, since a good deal of migration between subdivisions will cancel out when the entire State is the unit. In this study, projections by subdivisions of the State are necessary.

Table A2 shows the ratio of the population at age 14 to the same cohort 1 year later at age 15, etc. These ratios for the years 1950-58 are calculated from the data in table A1.

The purpose is to set up ratios to age 15 based on actual data which can be used to project population aged 15 in future years.

Table A3 gives the complete projection of population aged 15. Different methods of projection are used for different periods, as explained below.

a) Projection for 1959-1965. In this period we use the figures in table A2. The basic principle is simple, but the exact detail of procedure is a little involved in order to secure the advantages of stability and consistency.

Study of the ratios in table A2 shows that although relatively stable trends are present, there are erratic fluctuations from year to year. Sometimes all the population figures in a particular year appear to be low, relative to the preceding and following years. In order to guard against these fluctuations, a projected figure for the population aged 15 is never based on a single ratio nor on a single population figure for the cohort, as explained below. The effect of this averaging is to reduce the impact of such erratic fluctuations; in doing this it also reduces the impact of actual changes in migration and mortality. Thus a new actual trend (in the last two or three years) will be smoothed out through this averaging process; the price is deemed a small one compared to the risk of error in not averaging.

The method works as follows, with population aged 15 in 1959 as an example. Based on population aged 14 in 1958 (89,501) and the average of the last 3 ratios of age 15 to age 14. (.986, from averaging .990, .981, and .986) we would project 88,248. Based on population aged 13 in 1957 (90,001) and the average of the last 3 ratios of age 15 to age 13 (.990, from average of .993, .988, and .990) we would project 89,101. Based on the population aged 12 in 1956 (89,719) and the average of the last 3 ratios of age 15 to age 12 (.987, from average of .992, .983, and .987) we would project 88,553. All these projections are for the same item, population aged 15 in 1959, and are based on the same cohort measured at 3 different times. Averaging them, we get 88,634 which is taken as the projection.

This general procedure is followed step by step as far as 1965. An important additional concept is that the figure for age 15 in 1959, just projected, generates a new set of ratios for age 15 to all of the younger ages. For example, the last 3 ratios of age 15 to age 13 based on actual data are .993, .988, and .990. We now have a new ratio of .985 (entered in Table A2). Similarly, for the ratio of age 15 to age 12, we have a new ratio .988 based on the projected age 15 population for 1959 (see table A2). These new ratios are generated each time another figure for population aged 15 is projected. The important point is that these new ratios are used in projecting the next figure for age 15 (as of 1960). The practical effect of using these new ratios as they are generated is that the projected figure for age 15 is based on migration and mortality conditions of the last 5 years, with emphasis on the last 3 years. It also means that the successive figures projected for age 15 are consistently related to all the actual data.

TECHNICAL COMMENT: The effect is similar to what would be obtained by using one-year cohort ratios (age 15 to age 14, age 14 to age 13, age 13 to age 12, etc.); averaging over several years, and then multiplying them to get the ratio of age 15 to age 12. The procedure actually followed here is preferred for ease of averaging 3 different projections of the same item, and particularly for analyzing the projection as it develops. Graphs of ratios of the type given in table A2 are illuminating to the projector. For example, in Table A2 it can be seen that the ratio of age 15 to age 9 which is .998 based on latest actual data (for the period 1952 to 1958) is ultimately reduced to .988 as the implications of the last few years of actual data are worked into the ratio.

Projection for 1966-74. A new method is needed, because the school census data will not project beyond 1965 without using the unreliable data for ages below 7. The population aged 15 for this period is based on actual births. The births are adjusted to correspond to an August 31 date by taking two-thirds of the births in one calendar year and adding one-third of the births in the preceding calendar year. The actual live births (through 1959) are given in col. 2 of table A3, and the adjusted births in col. 3. The adjusted births are then related to the population aged 15, the ratios being shown in col. 6. The average ratio for the 7 years 1959-65 is .990; this ratio is used for all the remaining years. This is about the same as the average of the last 3 actual years, but is somewhat higher than the ratios before 1956. The implication is that around 1956 net migration into Upstate New York increased slightly, or mortality decreased, or both.

Trend projection for 1975-85. For this period, the ratio of age 15 to births is used, the same as in the preceding period, except that projected births must be used in place of actual births. Births for Upstate New York are projected by assuming that:

a) increased births in 1960-64, as a whole, and in 1965-69 as a whole, will parallel the increased births Nationally, based on 1955-57 birth rates (series II projection in Census Bureau publication P-25, No. 187). Thus, 1960-64 births are 6% above those of 1955-59; and 1965-69 births are 19% above those of 1955-59).

b) births within the period 1960-64 will increase linearly from year to year; and the same for the period 1965-69.

Projections of future births differ greatly.

For the period 1965-69 as compared to 1955-59, the Census publication previously cited includes alternatives with an increase ranging from -12% to 26%, Whelpton and Campbell's high series has an increase of 18%, and Greville (Social Security Administration, Actuarial Study No. 46) finds a range of 4% to 12%.

Once the births have been projected (shown in col. 2 of table A3), the same procedure as in the preceding period, 1966-74, is applied.

Low projection for 1975-84. A low projection of high school graduates for the entire State assumes that the number of births after 1959 remains constant at the 1959 figure (see table E3). This is not done separately for the Upstate area.

Table A4 uses the projected population aged 15 to project high school graduates.

The age distribution of high school graduates is determined from the August 31 age distribution of 12th grade students in public schools in the Upstate area (including the 4 suburban counties, which have not been separated out in this tabulation). The average for the 5 years 1952 through 1956 is 35.4% aged 16 and less, 50.6% aged 17, and 13.9% aged 18 and over. Accordingly, the appropriate combination of age 15 for comparison with high school graduates is taken as 35% of the age 15 population 1 year before, plus 50% of the age 15 population 2 years before, plus 15% of the age 15 population 3 years before. This combination is given in col. 2 of table A4.

The ratio of high school graduates (public and nonpublic) to this population age-group is projected in col. 4. Then the projected high school graduates are obtained by multiplying the ratio and the population age-group. The main text explains the projection of this ratio, comparing it with trends in New York and in the Nation.

(A low projection of high school graduates for the entire State assumes an increase in this ratio only half as large as in the trend projection.)

Table A5 is a reference or check table, showing how the graduates as projected by the preceding steps relate to the birth group, over the entire span of the projection.

B. Projection of high school graduates for 4 suburban counties of the New York City area (Nassau, Suffolk, Westchester, Rockland), to 1966-67

It would have been preferable to project population and high school graduates for the New York City area as a unit. However, the methods suitable for projecting graduates to 1966-67 are not the same for New York City and the 4 counties; for this reason separate projections are made.

The advantage in merging the 4 counties with New York City is that the very heavy out-migration from the city is largely counterbalanced by the in-migration of the 4 counties. When combined, the migration of the New York City area as a whole is greatly reduced, and it is unnecessary to assume that future migration between the city and the 4 counties will follow any particular pattern. The projection of graduates for the 4 counties should be considered as an intermediate step in getting the projection for the entire New York metropolitan area, and not as a separate projection in its own right. It is by no means clear that the recent migration rates from New York City to the suburbs will continue; in fact there are preliminary signs of a slackening in the records of New York City public school pupils discharged to enter school elsewhere. Some idea of enormous migration is gained by noting in col. 10 of table B2 that population aged 15 is 30% to 40% above that same population 6 years earlier; whereas Upstate the two populations are the same (col. 10 of table A2).

The projection of high school graduates for the 4 counties follows exactly the same procedures used for the Upstate projection, as explained in section A preceding. Table B1 corresponds to A1, table B2 to A2, and table B3 to table A4. No table corresponding to A3 is needed because projections of population aged 15 are not needed beyond 1965.

The ratio of high school graduates to the population age-group (col. 4 in table B3) is made to increase by the same increments as the corresponding ratio for the Upstate area.

C. Trend projection of high school graduates for New York City, to 1966-67

School census data for New York City were not, until recently, based on actual enumerations of the population. Their use for projections would be undesirable. The alternative approach adopted here is to use enrollment by grade, the basic advantage being that trustworthy annual data are available from the fall of 1952 to the fall of 1959. The disadvantages are the elimination of half-year grade promotions and changes in the 1st grade entrance age resulting in wide fluctuations of the basic ratios in certain years, the necessity of projecting non-public high school graduates by less satisfactory means, and finally the loss of a direct population base with which to compare these projected high school graduates. This last loss is retrieved to some extent later for the State as a whole by estimating the population (section I).

Table C1 shows the actual data on enrollment by grade in New York City public schools, as of October 31. It also shows day high school graduates as carried in the State Education Department's statistics, which is the figure to be projected.

Table C2 shows actual and projected ratios of high school graduates to enrollment of the same grade-cohort in earlier years; it also shows the projected high school graduates.

The methodology of projection is exactly the same as explained for table A2, in the part dealing with the projection for 1959-65.

The public high school graduates for 1952-53 were abnormally high because the elimination of half-year promotions had concentrated students in this cohort; the graduates in the years adjacent were somewhat below normal. The projected graduates for 1965-66 are abnormally low because a change in entrance ages caused this grade cohort to be a very small one compared to the grades adjacent.

Table C3 derives the total public and private graduates from the public school graduates previously projected in table C2. The ratio of total to public graduates is shown in col. 4; for all practical purposes it may be considered as a continuation of the ratio of the last 3 actual years. In actuality, the projection of this ratio was determined from the relationship of Catholic enrollments by grade to public enrollments by grade, with adjustment for the approximately 25% of private graduates that are from non-Catholic schools. The elaborate calculations are not given here.

The peculiar ratio for 1965-66 is owing to the small grade cohort in the public schools mentioned previously. The total graduates for 1961-62 may be somewhat in error, as the public-Catholic ratios for this cohort are erratic.

D. Projection of high school graduates for New York City metropolitan area to 1984-85

The projection to 1966-67 is merely the sum of the projection for New York City and the projection for the 4 suburban counties (Nassau, Suffolk, Westchester, and Rockland). The projection beyond 1966-67 is determined by births, actual and projected. It corresponds to the procedure used earlier for the Upstate area, except that the intermediate step of projecting the population aged 15 is omitted, since we have no actual data corresponding to this.

Table D1 shows actual and projected live births for calendar years in col. 2 for New York City plus the 4 suburban counties. The birth group corresponding to high school graduates is given in col. 5; it amounts to adjusting the calendar year births to ages as of August 31, and then combining 35% of the births 16 years earlier, 40% of the births 17 years earlier, and 25% of the births 18 years earlier. This combination is determined from the age distribution of 12th grade students in the New York City public schools, averaged over the 5 years 1952-56.

Projected births are determined by the same assumptions as used for Upstate (table A2); that is to say, 1960-64 births at 6% above 1955-59 births, and 1965-69 births 19% above those of 1955-59, with linear increases in each 5 year period. This corresponds to birth increases in the Nation assuming 1955-57 birth rates continue. (A low projection of high school graduates for the entire State assumes that the number of births after 1959 remains constant at the 1959 figure; see table E3.)

Table D2 applies a ratio to the birth group in table D1 to get the projected high school graduates beyond 1966-67.

The increase in high school graduates relative to the population has been discussed in connection with table A4, at which point a similar ratio was projected. The increments used to project col. 4 of table A4 beyond 1966-67 are used here to project col. 4 of table D2. The reason is that the general trend of the two series to 1966-67 is parallel, and the conceptual basis and the forces underlying the two series are the same. Instead of increments, percentage increases might have been used to tie the two series together; the final result would have been about the same because the two series are close together in absolute value.

In applying this procedure, it is necessary to see if the 1966-67 value of 68.1 is appropriate as a base point. It is judged to be a suitable base because it lies near the general trend of the series; or as another way of looking at it, the total number of graduates expected, if this ratio had been a straight line from the last actual (1958-59) to the 1966-67 value, is about the same as the total number projected for the period by the ratios actually used.

E. Trend projection and low projection of high school graduates for the entire State

Table E1 merely brings together and rounds the trend projections for Upstate and the New York City area. The last 2 columns show 2 year and 4 year sums of high school graduates, for use in later calculations.

Table E2 compares the trend projection of high school graduates for the State with the appropriate birth group, obtained by summing birth groups given in earlier tables. The birth group combinations are not identical for Upstate and the New York City area, but this is immaterial for its use in table E3.

Table E3 computes a low projection of high school graduates for the State. The birth groups based on actual births are the same, of course, but projected births are taken to be constant after 1959, instead of increasing as explained for the trend projection in table A3. This is equivalent to a decline in the birth rate.

The ratios of graduates to the birth group for the trend projection are given in table E2. For the low projection, the projected ratios are assumed to increase only half as much after the 1958-59 actual value. For example, the trend projection increases from 65.6 in 1958-59 to 79.0 in 1984-85, an increase of 13.4 points. In the low projection, the ratio increases from 65.6 in 1958-59 to 72.3 in 1984-85, an increase of 6.7 points, or half as much.

The combination of lower future births plus a lower graduation rate for the population represents a substantial cut in principle; however, the two series both increase greatly to 1976 because the basic population is increasing so much. The two series diverge more strongly in the years following 1980 because the trend projection of births is 19% above the low projection of births in these years.

Four-year and two-year sums of high school graduates are given in table E3 for use in later calculations.

F. Projections for economic areas of the State

Tables F1 and F2 are concerned with high school graduates and follow logically the preceding sections. Tables F3 to F8 are concerned with college attendance by area, and are based on State projections given in later sections; they should not be read until the State projections of college attendance have been studied.

Table F1 gives projections to 1974-75 of the high school graduates for the 10 economic areas into which the Upstate area has been divided in previous analyses of college statistics. (For the New York City metropolitan area no subdivision is provided because, as stated previously, the breakdown into New York City and the 4 suburban counties is not presented as an actual projection. The whole purpose of sections B through D was merely to get a good figure for the New York City metropolitan area as a whole.)

As a further refinement, when an Upstate economic area is composed of both metropolitan and nonmetropolitan counties (as defined by the 1960 decennial census), projections were made for each part; so that an overall total for the metropolitan counties of New York could be compared with the total for nonmetropolitan counties. It was anticipated that the metropolitan areas would be growing much faster, but the results were that growth in high school graduates is about equal, percentagewise, in the metropolitan and nonmetropolitan total graduates.

The method of projecting high school graduates for these areas to 1966-67 represented a much simplified version of the projection for the Upstate area as a whole. The economic area projections beyond 1966-67 were derived by extending the trend of the ratio of the area to the Upstate total. The details are given in the form of footnotes to table F1.

Table F2 gives groups of high school graduates which are appropriate for estimating total junior college and 4-year college enrollment from each area, using percentages entering college.

The combinations are necessary because the total undergraduate enrollments must be calculated, but data on college students by area of residence are available only for college entrance, not for total undergraduate enrollment.

Retention rates are determined from rates in New York colleges from 1953-54 through 1955-56. After 1955-56, enrollments by class levels have not been collected. The rates are determined by using undergraduate enrollments by class, excluding all unclassified students, and eliminating the undergraduate enrollment in schools of medicine, dentistry, and law. Two-year institutions are figured separately from 4-year institutions, since the two-year institutions do not retain students beyond the second year to any great extent.

The results may be summarized as follows:

In institutions classified as junior colleges, the enrollment above the 1st year (it includes a small amount of third year enrollment) in 1955-56 is 60.3% of the first year enrollment the previous year; in 1954-55 it is 55.6%. The rate of 60% is used in table F2.

In other colleges (excluding medicine, dentistry, and law), enrollments relative to first year enrollments are 72.5% and 72.8% for the second year; 64.8% and 64.8% for the third year; 64.7% and 62.1% for the fourth year; and 4.7% and 3.3% for the fifth year. By distributing the 5th year enrollment over the earlier years (to avoid having to use 5 years of high school graduates as a base), the percentages of 75%, 65%, and 65% used in table F2 are obtained.

These retention rates are for the number enrolled, and do not necessarily apply to the retention of individuals, as migration between 2-year and 4-year institutions or in and out of the State is not separated out, nor is irregular progress of individuals through the classes distinguished. These do not affect the use of the figures for getting enrollments by classes.

These retention rates are applied to the projection base, i.e., high school graduates, for use in projection. It is clear that such a combination as 100% of the 1957-58 graduates plus 60% of the 1956-57 graduates is appropriate for determining junior college enrollment from an area in the Fall of 1959, if the percentage of graduates entering junior colleges from the area is known.

Table F3 presents basic data on the college entrance rates of graduates from the various economic areas. Two different types of data are presented for comparison. The plans of 1956 high school seniors to attend 4-year and 2-year institutions are shown in columns 2-4. These rates are based on a very extensive sample survey of high school seniors, including both public and private schools. A follow-up on a sample of the respondents showed that although the individual students did not always carry out the indicated plan, nevertheless the changes tended to balance out, so that in the totals, what actually happened was in agreement with what was planned in total.

Another source of data is the reports of public high school principals on the college attendance of graduates of the previous year, shown in columns 5-7 for the graduates of the two most recent years available, 1956-57 and 1957-58. There is good agreement with the data on plans of high school seniors, with the exception of Niagara Frontier area 4-year college attendance rate. This area has many private school graduates, which may possibly cause the difference.

As usual, the data for New York City are troublesome. The reports of public high school principals on college attendance of their graduates are known to be simply estimates; the sample of public schools used in the 1956 survey is open to question as to its randomness, and the private school sample in New York City was small (although it was inflated appropriately in getting the New York City totals).

The way these rates are used, it is necessary only that the *relative* attendance of the different areas be correct; for this purpose the 1956 survey is preferred, despite its older date, because:

a) it collected data by the same procedures and definitions in all areas.

b) private high schools are included as well as public.

c) the data for New York City are judged to be better.

The great weakness is that it reports *plans* rather than actual attendance; however, the follow-up and the agreement with public school principals' reports on college attendance is reassuring in this regard.

Table F4 adjusts the attendance rates in table F3 so that:

a) the rates when applied to 1959 graduate groups matches the actual undergraduate total enrollment of New York residents in the fall of 1959.

b) the increase in attendance rates projected for the State as a whole in future years is distributed among the areas.

The adjustment to match 1959 enrollment totals amounts to increasing the 4-year college attendance rates in each area by 16.09% and increasing the 2-year college attendance rates in each area by 14.91%. The match is with full-time undergraduate enrollments; the use of full-time is appropriate because the U.S. Census sample survey of college attendance in the fall of 1958 showed very few part-time college students in the 18-22 age group.

The increase in attendance rates in future years have been projected elsewhere for the State as a whole. The problem here is to distribute the increases among the economic areas. The question is a difficult one, because the very purpose of these projections is to assist in planning the future development of the higher education system. The assumption used here is that increases in attendance rates will be distributed among the areas so as to narrow the range between the lowest and the highest rates; or stated otherwise, to bring the lower rates closer to the average. Such a narrowing of the range is a conspicuous trend in many aspects of our society; it is also likely to be a major objective in the planning phase.

The mechanics of carrying out these adjustments is to raise the percentages in col. 2 in inverse ratio to the initial percentages themselves; in other words, the increase in the percentage for the Binghamton area will be about twice the increase in the percentage for the New York area, because it is only half as big to begin with. The amount of the increases in any one year is such as to match in with the projected total undergraduate enrollment of New York residents.

The same procedure is used in adjusting the percentages in col. 3 to later years.

The amount of increased attendance to be distributed in the interests of equalization in this manner is not enough, in the case of 4-year colleges, to make much of a dent in the original range. In 1959, the highest rate of 4-year college attendance was 24 points above the lowest rate; in 1975 this gap has been narrowed by only 2.7 points.

In the case of attendance at 2-year colleges, the initial rates are close together, with a range of 3.45 points; the range is narrowed to only 1.55 points in 1975.

Table F5 applies that rates in table F4 give the number of residents of the various areas enrolled as full-time graduates in the fall of 1959. These are given in cols. 2 and 3, and represent the attendance of New York residents both in and out of New York State. In order to get the attendance of these residents within the State, the out-of-State migration from each area is calculated in columns 4-6. In column 4 is the percent of those attending college from a particular area who are expected to attend out-of-State; these percentages come from the survey of college plans of 1956 high school seniors. The initial estimate of out-migration of New York residents (col. 5) is obtained by applying these rates to the total attendance of New York residents. The initial estimate is then raised about 10% (col. 6) to match the migration of New York residents as reported in the survey conducted by the college registrars.

The out-migration of New York residents (col. 6) is distributed 60% to lower division and 40% to upper division (cols. 9 and 10); this assures the migration out-of-State is primarily for 4-year college attendance and is in accordance with the findings of the college registrars' study of migration that only 15% of New York residents attending out-of-State are in junior colleges.

The attendance of New York residents within the State (cols. 7 and 8) is determined by subtracting the out-of-State attendance from the total lower and upper division attendance of New York residents.

Tables F6, F7, and F8 are analogous to table F5, except that each is for a different year. Column 4 of table F5 is not repeated in these tables because it is unchanged.

The migration in future years is explained in the projection for the entire State.

The text table based on tables F5-F8 eliminates the New York residents attending out-of-State from the total (it is included merely as an exhibit), and adds a separate item for nonresidents of New York attending in New York; thus the total matches the total enrollment in New York institutions.

G. Actual college enrollment in New York

The projected enrollments must be broken down by undergraduate and graduate level, and by full-time and part-time status, in order to permit a proper analysis of the staff, facilities, and costs of accommodating these enrollments under alternative methods.

The actual enrollments of the past should be broken down accordingly; this is easier said than done.

All students are classified here as either "graduate" or "undergraduate." The graduate category includes all those so reported by the institution, plus advanced first professional students, such as those in medicine, law, theology, who are sometimes carried as undergraduate students. This merging of advanced professional students with the graduate students agrees with the definition used in New York statistics since the fall of 1958. The undergraduate category includes all other students; that is, those reported as undergraduates (except for advanced first professionals) plus all unclassified, special, or non-matriculated students.

The students reported as unclassified by the institutions present a problem. The definitions have varied somewhat from time to time, and it is perfectly clear from a detailed inspection of the data that not all institutions are consistent from one year to the next in the unclassified totals they report. There are also inconsistencies in a single year; certain technical institutes, for example, may report many unclassified students while other technical institutes with a similar type of program may report few unclassified students. Perhaps a consistent definition of "unclassified enrollment" could be developed if it were deemed sufficiently important to do so; certainly at the present time the category is ill-defined.

Nearly all the unclassified students are in part-time status. Inspection of the statistics in detail indicates that at least one major inconsistency occurs in the distribution of enrollment between the two categories "unclassified" and "part-time undergraduate." This suggests assigning the unclassified to the undergraduate level, which is the course adopted here, even though there are, no doubt, unclassified students taking graduate level courses. Perhaps the point is of only minor significance, since the projection treats all part-time students as one category, regardless of level.

The statistics include only students of college grade. They do not include extension students (students enrolled in classes which are given off main and branch campuses), summer school students, correspondence students, students in short courses (special sessions of several days to several weeks), students enrolled for individual lessons, or TV enrollees.

Before 1950, college enrollment statistics in New York referred to the academic year; since 1950 the reference has been shifted to fall enrollment (some academic year statistics were collected until 1955-56). The shift has been made in New York, as elsewhere, because of the much greater timeliness of fall data; there have also been problems of counting the same person twice in the academic-year enrollments. Fall enrollment is definitely smaller than academic-year enrollment because the latter includes new students enrolling after the beginning of the school year.

Fall enrollments are used here for all the projections and for almost all of the supporting data. The academic-year statistics before 1950 are hard to use because:

a) the shift from the academic-year base in the past to the fall base now used breaks the trend, and

b) full-time enrollment for the State is not available before 1950. Even though data were collected from the institutions according to full-time and part-time status, State totals were never prepared at the time, and apparently cannot be prepared now with any reasonable expenditure of effort because of the peculiar system then employed for tabulating enrollments by professional field from universities and independent institutions without eliminating duplication of university and other enrollments reported in other categories.

Table G1 shows fall college enrollment in New York for the four years 1956-59, subdivided by level, by full-time or part-time status, and by 4-year and 2-year institutions. It is not possible to extend these breakdowns back to earlier years. Numerous adjustments have been made in order to achieve consistency and to match the definitions of graduate and undergraduate enrollment as given above; these adjustments are explained in the table notes.

Table G2 shows full-time fall enrollment in 4-year and 2-year institutions for 10 years, from 1950 to 1959. Undergraduate and graduate level are not distinguished. It is not possible to extend this table before 1950. The table also shows the ratio of these full-time enrollments to the high school graduates of the 4 preceding years (or the 2 preceding years for the 2-year enrollment). The significance of the trend in these ratios is considered in the main text.

Table G3 shows full-time enrollment in the day division of public 2-year institutions, subdivided according to terminal program or transfer program. The transfer program (meaning a program which corresponds to the first 2 years of a 4-year college course) is evidently increasing in importance in these institutions, but still accounts for only 12 percent of their full-time enrollment in the fall of 1959.

H. Projections to 1985 of full-time undergraduate enrollment in New York institutions

In brief, the enrollments are projected by relating them to high school graduates. Four years of high school graduates provide the base for the projection in 4-year types of programs; two years of high school graduates provide the base for the projection in 2-year types of programs. After getting the unadjusted projection of enrollment in this way, an estimate of future migration of college students across New York State boundaries is made, and the enrollment is adjusted accordingly. Finally, the enrollments are then grouped into lower division (the first 2 years of college, whether in 2-year or 4-year institutions) and upper division (undergraduate enrollment above the first two years).

Three different projections are presented; a judgment projection based on current trends as explained fully in the main text (tables H1-H3), a high projection based on the maximum feasible growth (tables H4-H6), and a low projection based on the minimum growth considered likely in all the factors (tables H7-H9).

Table H1 shows 4 years of high school graduates from the trend projection (col. 2), the ratio of full-time undergraduate enrollment in 4-year programs to this (col. 4), and the projected enrollment in 4-year programs as the product of the two preceding statistics (col. 6). The same method is applied to 2 years of high school graduates in order to project enrollment in 2-year programs (cols. 3, 5, and 7).

The reason for treating 4-year and 2-year programs separately is that the growth rates have been, and are expected to be, quite different in these two sectors; to lump them together would obscure changes in the mix between upper division and lower division enrollment.

It is important to realize that what is projected is enrollment in 2-year and 4-year programs; NOT enrollment in 2-year and 4-year institutions. This leaves open the question as to how these enrollments are to be handled institutionally.

As shown in table G3, the number of transfer students in 2-year public institutions is small relative to the total 4-year enrollments, but it is growing. As explained in the text, allowance for the growth of this component (transfer students in 2-year institutions) is included in the growth rate of 4-year programs, so that this growth will be reflected in both the upper and lower division.

Simple sums of high school graduates are used as a base rather than weighted sums which depend on college retention rates (this was necessary in the regional projections; see discussion under table F2) because the ratio of enrollment to graduates follows parallel trends for weighted and unweighted sums. We, therefore, greatly simplify the calculations, avoid the necessity of making explicit assumptions about retention rates, and keep a base which is easy to explain. It permits comparison of the enrollment with the population (see section I below).

By using unweighted sums, we merge into the ratio both changes in the retention rates and also the attendance rate of high school graduates. In effect, this assumes that changes in retention rates in the future, over and above whatever pattern of change in these rates is embodied in the base period, are going to be of minor importance for enrollments as compared to the other factors involved (especially attendance rates). This is a small concession.

Table H2 derives the adjustments which must be applied to the enrollments projected in table H1 in order to allow for expected changes in the migration of college students across the New York State boundary.

Migration of college students to and from New York was studied in the fall of 1958 by the American Association of Collegiate Registrars and Admissions Officers, and in 1949-50 by the U.S. Office of Education. In both years the migration of undergraduates as a percent of total undergraduate enrollment is similar. The number of students migrating in and out of New York in the fall of 1958 is shown in column 2 of table H2.

The migration embodied in the projection in table H1 assumes that migration will grow at the same rate as total enrollment; however, it is much more realistic to assume that migration will grow at a slower rate than total enrollment, and because New York is now sending more undergraduates to other States than it receives back this limiting of migration growth will necessitate more undergraduate attendance in New York institutions.

Rather arbitrary assumptions are made in order to allow for the change in migration. In the case of migration to and from publicly supported institutions we assume no growth at all. In other words, the number of undergraduate students migrating in and out of New York will be the same in 1965 and later years as it was in 1958. This expected migration is shown in lines 6 and 12 of table H2.

Migration to privately controlled institutions is assumed to grow, but only at half the growth rate of total undergraduate full-time enrollment. This rate is taken because the nondiscrimination of private institutions on the basis of State origin leads to the expectation of some growth in migration, but the fact that enrollment in private institutions as a whole is not expected by most authorities to grow as much as the total public and private enrollment leads to the expectation that the growth of migration will be less than the growth in total public and private enrollment.

Table H2 shows in line 1 the percentage growth in full-time undergraduate enrollment as projected in table H1; lines 3 and 9 show the expected migration to private institutions assuming half the growth rate in line 1.

The projection in table H1 made no explicit assumption about migration; it implicitly assumed, therefore, that migration would grow at the same rate as total enrollment. The amount of migration thus assumed is shown in lines 2, 5, 8, and 11 of table H2.

The difference between these last figures and the migration estimated in lines 3, 6, 9, and 12 gives the corrections to be applied; these are shown in lines 4, 7, 10, and 13. The total adjustment then becomes merely the reduction in the outmigration between the two assumptions (this reduction must be added to the enrollment in New York) minus the reduction in the inmigration between the two assumptions (this reduction reduces the enrollment in New York colleges). The total effect is shown in the bottom line of table H2, which gives the amounts to be added to the enrollment shown in table H1 if we assume no change in migration to public institutions, and migration to private institutions increasing at only one-half the rate of increase of total full-time undergraduate enrollment.

It is assumed that the adjustments for changes in undergraduate migration are applicable to full-time enrollments. This assumption is reasonable for outmigration from New York, but for inmigration the assumption has less validity since the enormous opportunities for part-time enrollment in the New York City area are accessible to many residents of New Jersey and Connecticut. No corrections are introduced on account of the possibility of part-time migration because of the broad assumptions about migration already made, and because we actually have no real data on the extent of part-time migration. However, in order to get an idea of the possible magnitude of this correction, we might assume that only half of the undergraduate inmigration from New Jersey and Connecticut is full time. Then the 1958 base for line 8 is 22,205 and for line 11 is 3,351. These substitutions result in a migration adjustment in 1980 of 36,400, which is 6,900 more than the 29,500 which we actually use.

Table H3 applies the migration adjustment to the projected full-time undergraduate enrollment, and then subdivides the enrollment into lower division and upper division enrollment.

The entire migration adjustment is applied to the 4-year program because it is known from the 1958 survey that only about 15 percent of the undergraduate migration is to junior colleges.

Enrollment in 4-year programs is subdivided into lower division and upper division by a simple 60% - 40% split. This agrees with the situation in the last 5 years for which we have actual data; the lower division representing 59.4% of undergraduate enrollment in 1955-56, 60.7% in 1954-55, and 59.3% in 1953-54. These figures are based on academic-year undergraduate enrollment in New York (full- and part-time), excluding undergraduate enrollment in schools of law, medicine, and dentistry.

Enrollment in 2-year programs, of course, is entirely assigned to the lower division.

Table H3 concludes the judgment projection of full-time undergraduate enrollment in New York.

Tables H4 - H6 are concerned with the high projection of enrollment. The procedures are exactly the same as those explained for tables H1 - H3, except that higher attendance ratios (cols. 4 and 5 in table H4) are used than in the judgment projection.

Tables H5 and H6 employ the same assumptions as in tables H2 and H3, but the numbers are different because the attendance rates in H4 are different.

Tables H7 - H9 are concerned with the low projection of enrollment. A low projection of high school graduates is used (cols. 2 and 3 of table H7) and low rates of growth in college attendance ratios are used (cols. 4 and 5 of table H7). Table H8 figures the adjustment for changed migration under the same assumptions as previously, and table H9 applies these adjustments and splits the enrollment into upper and lower division.

I. Estimate of population corresponding to high school graduates and to undergraduate enrollment; State

As pointed out in the process of projecting high school graduates, the population base was lost because of difficulties with New York City statistics.

Many projections, however, depend on the population aged 18-21, or some similar age group of the population. In this projection we have used high school graduates as our base, but in order to provide at least an estimated population base for those who wish to examine the projection from this aspect, the high school graduates are converted into a population group. These high school graduate populations are a mixture of ages, as explained earlier, but they are equivalent to a single year of population in the sense that each person counts once and only once. It is merely a matter of a change in timing, so to speak.

The sum of 4 consecutive years of high school graduate populations is equivalent to the population aged 18-21 in the sense that the age distribution centers around 18-21.

Table I1. In making the Upstate projections, the ratio of high school graduates to an appropriate age group of the population was used as the method of projection. The age group was a combination of 16, 17, and 18 year olds as of the fall of the school year of graduation. This Upstate ratio is now applied to the high school graduates for the entire State in order to estimate the population group for the entire State. This is exactly the same as assuming that the ratio of high school graduates to population in the New York City metropolitan area is the same as in the Upstate area. This is certainly true approximately, but even if the absolute numbers are in error, the trend of the population will be correct.

The population for 4 years of high school graduates is computed in column 5 of table I1 by simply summing 4 years of the figures in column 4. As explained above, this is thus equivalent to 4 years of population, and can serve the same analytical function as population aged 18-21.

Table I2 presents the population estimates according to the low birth rate assumption of the low projection. The procedure is exactly the same as in table I1. There is no need to compute the years before 1976-77, since the population is the same as in table I1 for these earlier years.

Table I3 shows the ratio of projected full-time undergraduate enrollment to the estimate of 4 years of population. These ratios wrap up in one figure the combined effect of all the assumptions about high school graduation rates, college attendance rates, and migration changes; for each of the three projections.

The analyst should keep in mind that migration changes cause part of the increase in these ratios.

J. Projection of full-time graduate enrollment

For reasons explained in the text, full-time graduate enrollment is projected as a constant percent of full-time undergraduate upper division enrollment in earlier years.

The exact base selected is the sum of the upper division full-time enrollment for the preceding 4 years. Whether 4, 5, or 6 years are used is not of great significance, since the trend is generally similar in all of them.

The summation of 4 years of upper division enrollment has the peculiarity that some persons are counted twice. This might be avoided by summing the 1st and 3rd preceding upper division enrollment; on the other hand, the use of the full 4 years tends to smooth out irregularities, but the point is minor.

Table J1 is merely a work table. It shows that the relationship of 1959 full-time graduate enrollment to 4 preceding years of full-time upper division enrollment was 10 percent; this 10 percent is then applied to projected upper division enrollments, as indicated in the table.

The ratio of 10 percent is harmonious with the finding in the October 1959 sample survey of enrollment conducted by the Census Bureau, in which enrollment (full- and part-time) in the 5th year of college or higher was exactly 50 percent of the enrollment in the 3rd and 4th years of college. This corresponds to a 12½ percent ratio for 4 years of upper division enrollment (data given in Census-AMS (P-27), No. 27).

Table A1

Resident Minors on School Census, Ages 7-15; Upstate (Excluding New York City Area)

Year (Fall) 1	Age 15 same year 2	Age 14 1 year earlier 3	Age 13 2 years earlier 4	Age 12 3 years earlier 5	Age 11 4 years earlier 6	Age 10 5 years earlier 7	Age 9 6 years earlier 8	Age 8 7 years earlier 9	Age 7 8 years earlier 10
1950	67,185	68,590	68,456	68,471					
1951	66,967	67,553	67,716	67,865	67,795				
1952	67,455	67,968	67,750	68,328	68,012	67,857			
1953	69,331	70,216	69,949	69,886	70,079	69,964	70,148		
1954	70,490	70,486	70,571	70,589	70,511	70,749	70,509	70,347	
1955	71,818	72,250	72,220	72,476	72,034	72,109	72,206	72,057	71,547
1956	77,394	78,185	77,968	78,016	77,639	77,568	77,635	77,537	77,201
1957	85,115	36,773	86,150	86,567	85,543	85,839	85,436	85,594	85,724
1958	97,797	99,221	98,736	99,124	98.451	98,252	97,968	97,555	97,656
1959		89,501	90,001	89,719	89,353	89,093	88,967	88,710	88,653
1960			88,426	88,591	88,547	88,796	88,823	88,198	88,054
1961				95,438	95,272	95,263	95,690	95,532	95,120
1962					126,874	127,452	127,390	127,462	127,105
1963						115,009	115,198	115,306	114,942
1964							116,472	116,144	116,212
1965								115,311	115,236

Source: Unpublished tabulations from annual school census reports from schools to Education Department.

Table A2

Projection to 1965 of Resident Minors Aged 15 on School Census in Fall of Year; Based on School Census Population; Upstate (Excluding New York City Area)

Population Aged 15		Ratio of population aged 15 to same cohort in earlier years							
Year (Fall)	Number	Age 14 1 year earlier	Age 13 2 years earlier	Age 12 3 years earlier	Age 11 4 years earlier	Age 10 5 years earlier	Age 9 6 years earlier	Age 8 7 years earlier	Age 7 8 years earlier
1	2	3	4	5	6	7	8	9	10
	Actual								
1950	67,185	.980	.981	.981					
1951	66,967	.991	.989	.987	.988				
1952	67,455	.992	.996	.987	.992	.994			
1953	69,331	.987	.991	.992	.989	.991	.988		
1954	70,490	1.000	.999	.999	1.000	.996	1.000	1.002	
1955	71,818	.994	.994	.991	.997	.996	.995	.997	1.004
1956	77,394	.990	.993	.992	.997	.998	.997	.998	1.002
1957	85,115	.981	.988	.983	.995	.992	.996	.994	.993
1958	97,797	.986	.990	.987	.993	.995	.998	1.002	1.001
	Projected								
1959	88,634	.990	.985	.988	.992	.995	.996	.999	1.000
1960	87,577		.990	.989	.989	.986	.986	.993	.995
1961	94,403			.989	.991	.991	.987	.988	.992
1962	126,051				.994	.989	.989	.989	.992
1963	113,866					.990	.988	.988	.991
1964	115,035						.988	.990	.990
1965	114,121							.990	.990

Source: Col. 2 for 1950-58 from table A1.
Cols. 3-10 based on col. 2 divided by actual data from previous table.

Table A3

Projection to 1983 of Population Aged 15 as of August 31, Based on Births and Projected Births; Upstate (Excluding New York City Area)

Year	Resident live births, calendar year	Birth group corresponding to age 15 on Aug. 31 15 years later	Resident minors aged 15 on school census, August 31		
			Year	Number	Ratio to birth group
1	2	3	4	5	6
1934	70,448	70,149			
1935	70,063	70,191	1950	67,185	.957
1936	70,202	70,156	1951	66,967	.955
1937	70,832	70,622	1952	67,455	.955
1938	73,453	72,579	1953	69,331	.955
1939	71,889	72,410	1954	70,490	.973
1940	74,358	73,535	1955	71,818	.977
1941	80,198	78,252	1956	77,394	.989
1942	93,863	89,308	1957	85,115	.953
1943	95,160	94,728	1958	97,797	1.032
1944	87,514	90,062	1959	88,634	.984
1945	85,851	86,405	1960	87,577	1.014
1946	108,236	100,775	1961	94,403	.937
1947	123,783	118,601	1962	126,051	1.063
1948	116,212	118,735	1963	113,866	.959
1949	116,261	116,245	1964	115,035	.990
1950	116,260	116,260	1965	114,121	.982
1951	120,840	119,313	1966	118,120	.990
1952	126,211	124,421	1967	123,177	↓
1953	126,223	126,219	1968	124,957	
1954	130,520	129,038	1969	127,797	
1955	133,789	132,699	1970	131,372	
1956	135,667	135,041	1971	133,691	
1957	142,927	140,507	1972	139,102	
1958	142,525	142,659	1973	141,232	
1959	142,116	142,252	1974	140,829	
1960	144,000	143,372	1975	141,938	
1961	145,884	145,256	1976	143,803	
1962	147,768	147,140	1977	145,669	
1963	149,652	149,024	1978	147,534	
1964	151,536	150,908	1979	149,399	
1965	156,321	154,726	1980	153,179	
1966	161,106	159,511	1981	157,916	
1967	165,891	164,296	1982	162,653	
1968	170,676	169,081	1983	167,390	
1969	175,461	173,866	1984	172,127	

Source: Col. 2, 1934-58 from State Health Department publications; 1959 unpublished provisional estimate of State Health Department; 1960-69 projected as given in table A2.

Col. 3 is 66.67% of calendar year births plus 33.33% of births in previous calendar year.

Col. 5, 1950-65 from previous table; 1966-84 is col. 3 x col. 6.

Col. 6, 1950-65 is col. 5/col. 3; 1966-84 figure of .990 is average of 1959-65.

Table A4

Trend Projection to 1984-85 of High School Graduates Based on Projection of Population Aged 15 as of August 31, Upstate (Excluding New York City Area)

School year	Population age-group corresponding to high school graduates (based on age 15)	High school graduates	
		Number	Ratio to age-group (proportion of population graduating)
1	2	3	4
1950-51	66,849	41,775	.625
-52	66,432	42,205	.635
-53	66,895	43,691	.653
-54	67,171	43,975	.655
-55	68,038	45,408	.667
-56	69,455	47,360	.682
-57	70,781	47,028	.664
-58	73,570	49,440	.672
-59	79,260	54,899	.693
-60	88,396	61,900	.700
-61	92,688	65,500	.707
-62	89,639	64,000	.714
-63	90,125	65,000	.721
-64	104,456	76,000	.728
-65	117,039	86,000	.735
-66	116,103	86,000	.741
-67	114,540	85,600	.747
-68	115,658	87,100	.753
-69	119,290	90,500	.759
-70	123,041	94,100	.765
-71	125,684	96,900	.771
-72	128,622	99,800	.776
-73	131,647	102,800	.781
-74	135,237	106,300	.786
-75	139,036	110,000	.791
-76	140,771	112,100	.796
-77	141,278	113,200	.801
-78	142,424	114,700	.805
-79	144,176	116,600	.809
-80	146,042	118,700	.813
-81	147,907	120,800	.817
-82	150,442	123,500	.821
-83	154,270	127,300	.825
-84	158,863	131,700	.829
-85	163,600	136,300	.833

Source: Col. 2 is derived from population aged 15 as of August 31, being 35% of the age 15 population 1 year before, plus 50% of that 2 years before, plus 15% of that 3 years before. These proportions correspond to the composition by age of grade 12 enrollment in the fall of the school year, averaged for public schools for 5 years 1952-56 for upstate (excluding New York City).

Col. 3, 1950-51 through 1957-58, actual; 1958-59 provisional; 1959-60 and later is col. 2 times col. 4.

Col. 4, 1950-51 through 1958-59, col. 3 divided by col. 2; 1959-60 and later projected by trend (see text).

Table A5

Trend Projection of High School Graduates, as Related to Birth Group; Upstate (Excluding New York City Area)

School year 1	High school graduates 2	Birth group corresponding to high school graduates 3	Ratio: graduates / birth group 4
1952-53	43,691	70,172	62.3%
-54	43,975	70,324	62.5
-55	45,408	71,237	63.7
-56	47,360	72,226	65.6
-57	47,028	72,829	64.6
-58	49,440	75,015	65.9
-59	54,899	81,414	67.4
-60	61,900	89,547	69.1
-61	65,500	92,282	71.0
-62	64,000	89,482	71.5
-63	65,000	91,983	70.7
-64	76,000	104,859	72.5
-65	86,000	115,974	74.2
-66	86,000	117,843	73.0
-67	85,600	116,624	73.4
-68	87,100	117,326	74.2
-69	90,500	120,643	75.0
-70	94,100	124,284	75.7
-71	96,900	126,953	76.3
-72	99,800	129,922	76.8
-73	102,800	132,977	77.3
-74	106,300	136,603	77.8
-75	110,000	140,440	78.3
-76	112,100	142,194	78.8
-77	113,200	142,705	79.3
-78	114,700	143,863	79.7
-79	116,600	145,633	80.1
-80	118,700	147,517	80.5
-81	120,800	149,401	80.9
-82	123,500	151,962	81.3
-83	127,300	155,828	81.7
-84	131,700	160,468	82.1
-85	136,300	165,253	82.5

Source: Col. 2 from Table A4.
Col. 3 is derived from Col. 3 of table A3, being 35% of that 16 years before, 50% of that 17 years before, and 15% of that 18 years before.

Table B1

Resident Minors on School Census, Ages 7-15;
4 Suburban Counties of New York City Area

Year (Fall)	Age 15 same year	Age 14 1 year earlier	Age 13 2 years earlier	Age 12 3 years earlier	Age 11 4 years earlier	Age 10 5 years earlier	Age 9 6 years earlier	Age 8 7 years earlier	Age 7 8 years earlier
1	2	3	4	5	6	7	8	9	10
1950	19 878	19 472	19 170	18 920					
1951	20 188	19 743	18 949	18 700	18 253				
1952	21 063	20 667	19 992	19 584	18 920	18 526			
1953	23 012	22 144	21 656	21 001	20 066	19 652	19 072		
1954	24 287	23 959	23 087	22 451	21 359	20 404	19 646	19 216	
1955	27 311	26 655	25 954	25 037	23 927	22 781	21 611	20 908	20 214
1956	30 735	30 088	29 384	28 359	27 113	25 989	24 482	23 189	22 312
1957	36 079	35 612	34 598	33 752	32 197	30 711	29 121	27 488	25 658
1958	44 931	44 147	43 275	42 530	40 861	38 884	36 798	34 800	32 236
1959		40 097	39 785	39 208	38 042	36 661	35 106	33 422	31 720
1960			42 669	42 439	41 429	40 040	38 554	36 707	34 622
1961				47 142	46 882	45 303	43 830	42 075	39 994
1962					63 297	62 589	60 867	58 574	56 291
1963						56 950	56 445	54 407	52 513
1964							57 625	56 523	54 754
1965								58 090	57 110

Source: Unpublished tabulations from annual school census reports from schools to Education Department.

Table B2

Projection to 1965 of Resident Minors Aged 15 on School Census in Fall of Year, Based on School Census Population; 4 Suburban Counties of New York City Area

Population aged 15		Ratio of population aged 15 to same cohort in earlier years							
Year (Fall)	Number	Age 14 1 year earlier	Age 13 2 years earlier	Age 12 3 years earlier	Age 11 4 years earlier	Age 10 5 years earlier	Age 9 6 years earlier	Age 8 7 years earlier	Age 7 8 years earlier
1	2	3	4	5	6	7	8	9	10
	Actual								
1950	19 878	1.021	1.037	1.051					
1951	20 188	1.023	1.065	1.080	1.106				
1952	21 063	1.019	1.054	1.076	1.113	1.137			
1953	23 012	1.039	1.063	1.096	1.147	1.171	1.207		
1954	24 287	1.014	1.052	1.082	1.137	1.190	1.236	1.264	
1955	27 311	1.025	1.052	1.091	1.141	1.199	1.264	1.306	1.351
1956	30 735	1.022	1.046	1.084	1.134	1.183	1.255	1.325	1.378
1957	36 079	1.013	1.043	1.069	1.121	1.175	1.239	1.313	1.406
1958	44 931	1.018	1.038	1.056	1.100	1.156	1.221	1.291	1.394
	Projected								
1959	41 409	1.033	1.041	1.056	1.089	1.130	1.180	1.239	1.305
1960	45 033		1.055	1.061	1.087	1.125	1.168	1.227	1.301
1961	50 860			1.079	1.085	1.123	1.160	1.209	1.272
1962	70 144				1.108	1.121	1.152	1.198	1.246
1963	65 106					1.143	1.153	1.197	1.240
1964	67 683						1.175	1.197	1.236
1965	70 204							1.209	1.229

Source: Column 2 for 1950-58 from Table B1.
Columns 3-10 based on column 2 divided by actual data from Table B1.

Table B3

Trend Projection to 1966-67 of High School Graduates, Based on Projection of Population Aged 15; 4 Suburban Counties of New York City Area

School year	Population age-group corresponding to high school graduates	High school graduates: Number	High school graduates: Ratio to age-group (Proportion of population graduating)
1	2	3	4
1950-51	19,036	13,837	.727
-52	19,265	15,039	.781
-53	19,848	15,234	.768
-54	20,448	15,974	.781
-55	21,614	17,516	.810
-56	23,166	18,963	.819
-57	25,154	19,657	.781
-58	28,056	22,604	.806
-59	32,092	26,142	.815
-60	38,376	31,545	.822
-61	42,370	35,125	.829
-62	43,206	36,120	.836
-63	46,529	39,224	.843
-64	56,735	48,225	.850
-65	65,488	56,123	.857
-66	66,764	57,617	.863
-67	68,179	59,248	.869

Source: Column 2 derived from population aged 15 in same proportions as in column 2 of Table A4.

Column 3, 1950-51 through 1957-58, actual; 1958-59 provisional; 1959-60 and later is column 2 times column 4.

Column 4, 1950-51 through 1958-59, column 3 divided by column 2; 1959-60 and later projected by trend. (See text)

Table C1

Grade Enrollment and High School Graduates: New York City Public Schools

School year	High school graduates	Register, by grade, October 31									
		Grade 12 same year	Grade 11 1 year earlier	Grade 10 2 years earlier	Grade 9 3 years earlier	Grade 8 4 years earlier	Grade 7 5 years earlier	Grade 6 6 years ealier	Grade 5 7 years earlier	Grade 4 8 years earlier	Grade 3 9 years earlier
1	2	3	4	5	6	7	8	9	10	11	12
1952-53	49 039	50 181									
-54	39 580	42 417	53 800								
-55	41 200	43 929	54 890	68 170							
-56	40 189	43 181	54 552	65 560	69 918						
-57	39 029	42 548	53 818	66 561	70 373	56 882					
-58	41 337	44 875	56 811	69 338	72 095	58 896	63 216				
-59	44 506	49 224	62 599	74 415	77 589	63 491	69 379	68 074			
-60		57 570	71 740	83 728	85 905	71 335	78 877	78 997	80 324		
-61			69 420	83 336	84 081	63 758	70 295	69 914	72 014	73 317	
-62				76 796	76 026	61 033	68 020	66 525	68 800	70 771	72 588
-63					77 604	59 559	68 341	65 466	67 914	69 724	71 940
-64						70 407	82 327	80 786	83 159	84 904	88 663
-65							80 615	79 096	82 036	82 615	84 476
-66								62 966	63 654	61 723	61 032
-67									74 860	75 444	75 654

Source: Column 2, 1952-53 through 1957-58, day high school graduates (including physically handicapped and homebound), State Education Department; 1958-59, provisional from New York City Board of Education, Bureau of Educational Program Research and Statistics. Columns 3-12, Annual Statistical Reports of New York City Board of Education for October 1952--October 1957; October 1958 and October 1959 provisional from Bureau of Educational Program Research and Statistics.

Table C2

Trend Projection to 1966-67 of High School Graduates, Based on Register by Grade; New York City Public Schools

School year	High school graduates number	Ratio of high school graduates to grade register									
		Grade 12 same year	Grade 11 1 year earlier	Grade 10 2 years earlier	Grade 9 3 years earlier	Grade 8 4 years earlier	Grade 7 5 years earlier	Grade 6 6 years earlier	Grade 5 7 years earlier	Grade 4 8 years earlier	Grade 3 9 years earlier
1	2	3	4	5	6	7	8	9	10	11	12
	Actual										
1952-53	49 039	.977									
-54	39 580	.933	.736								
-55	41 200	.938	.751	.604							
-56	40 189	.931	.737	.613	.575						
-57	39 029	.917	.725	.586	.555	.686					
-58	41 337	.921	.728	.596	.573	.702	.654				
-59	44 506	.904	.711	.598	.574	.701	.641	.654			
	Projected										
-60	51 332	.892	.716	.613	.598	.720	.651	.650	.639		
-61	49 649		.715	.596	.590	.779	.706	.710	.689	.677	
-62	45 198			.589	.595	.741	.664	.679	.657	.639	.623
-63	45 550				.587	.765	.667	.685	.670	.653	.633
-64	55 124					.783	.670	.682	.663	.649	.622
-65	54 034						.670	.683	.659	.654	.640
-66	41 838							.664	.657	.678	.686
-67	49 433								.660	.655	.653

Source: Column 2 for 1952-53 through 1958-59 from Table C1.
Columns 3-12 based on column 2 divided by actual data from previous table.

Note: Small high school graduating class in 1965-66 reflects a change in school entrance age in Fall of 1954.

Table C3

Trend Projection of Public and Private High School Graduates to 1966-67; Based on Projection of Public School Graduates and Relationship of Grade Registers in Public and Catholic Schools; New York City

School year	Public school graduates	Total graduates	Ratio: total/public
1	2	3	4
1952-53	49 039	59 591	1.215
-54	39 580	49 933	1.262
-55	41 200	52 267	1.269
-56	40 189	51 619	1.284
-57	39 029	52 162	1.336
-58	41 337	54 659	1.322
-59	44 506	58 495	1.314
-60	51 332	67 040	1.306
-61	49 649	65 189	1.313
-62	45 198	60 204	1.332
-63	45 550	60 536	1.329
-64	55 124	73 425	1.332
-65	54 034	72 297	1.338
-66	41 838	59 996	1.434
-67	49 433	67 674	1.369

Source: Col. 2 from table C2. Col. 3, 1952-53 through 1957-58, State Education Dept.; 1958-59, provisional; 1959-60 through 1966-67, col. 2 times col. 4. Col. 4, 1952-53 through 1958-59, col. 3 divided by col. 2; 1959-60 to 1966-67, ratio projected in accordance with the relationship of Catholic grade enrollments (as percent of public grade enrollments) to nonpublic graduates (as percent of public graduates). Work tables on file in State Education Dept., Bureau of Statistical Services.

Table D1

Births, Actual and Projected, and Birth Groups Corresponding to School Statistics; New York City Metropolitan Area

Resident live births		Birth groups corresponding to:		
		Age 15 on August 31, 15 years later	High school graduates	
Calendar year	Number		School year	Number
1	2	3	4	5
1933	117 744	-	-	-
34	115 261	116 089	-	-
35	114 361	114 661	-	-
36	111 719	112 600	1952-53	114 297
37	115 559	114 279	-54	113 703
38	116 222	116 001	-55	114 462
39	116 358	116 313	-56	115 680
40	122 100	120 186	-57	117 591
41	130 226	127 518	-58	121 784
42	150 104	143 479	-59	131 271
43	153 807	152 573	-60	142 672
44	141 321	145 483	-61	147 818
45	148 259	145 947	-62	147 418
46	176 909	167 360	-63	153 326
47	199 614	192 046	-64	170 647
48	185 386	190 128	-65	185 203
49	184 764	184 971	-66	188 803
50	185 153	185 023	[illegible]7	186 278
51	195 393	191 980	-68	187 445
52	199 824	198 347	-69	192 469
53	198 854	199 177	-70	197 046
54	204 706	202 756	-71	200 222
55	208 359	207 141	-72	203 396
56	211 033	210 142	-73	207 095
57	217 804	215 547	-74	211 284
58	219 719	219 081	-75	215 433
59	221 008	220 578	-76	218 721
	Projected			
60	223 512	222 677	1976-77	220 938
61	226 016	225 181	-78	223 029
62	228 520	227 685	-79	225 431
63	231 024	230 189	-80	227 935
64	233 528	232 693	-81	230 439
65	241 201	238 644	-82	234 150
66	248 874	246 317	-83	239 842
67	256 547	253 990	-84	247 084
68	264 220	261 663	-85	254 757
69	271 893	269 336	-86	262 430

SOURCE: Col. 2, 1933-58 from State Health Dept. publications; 1959, unpublished provisional estimate of State Health Dept.; 1960-69 projected as given in another table. Col. 3 is 66.67% of col. 2, plus 33.33% of col. 2 for preceding year. Col. 5 is 35% of col. 3 corresponding to age 16 in fall of school year; 40% of age 17; and 25% of age 18. These proportions correspond to the composition by age of grade 12 enrollment in the fall of the school year, average for New York City public schools for 5 years, 1952-56

Table D2

Trend Projection of High School Graduates from 1968-69 to 1984-85, Based on Actual and Projected Births; New York City Metropolitan Area

School year	High school graduates	Birth group corresponding to high school graduates	Ratio: Graduates / Birth group
1	2	3	4
	Actual		
1951-52	68 119	-	
-53	74 825	114 297	65.5%
-54	65 907	113 703	58.0
-55	69 783	114 462	61.0
-56	70 582	115 680	61.0
-57	71 819	117 591	61.1
-58	77 263	121 784	63.4
-59	84 637	131 271	64.5
	Projected from school statistics		
1959-60	98 600	142 672	69.1
-61	100 300	147 818	67.9
-62	96 300	147 418	65.3
-63	99 800	153 326	65.1
-64	121 700	170 647	71.3
-65	128 400	185 203	69.3
-66	117 600	188 803	62.3
-67	126 900	186 278	68.1
	Projected from birth group and ratio		Projected ratio
1967-68	128 800	187 445	68.7
-69	133 400	192 469	69.3
-70	137 700	197 046	69.9
-71	141 200	200 222	70.5
-72	144 400	203 396	71.0
-73	148 100	207 095	71.5
-74	152 100	211 284	72.0
-75	156 200	215 433	72.5
-76	159 700	218 721	73.0
-77	162 400	220 938	73.5
-78	164 800	223 029	73.9
-79	167 500	225 431	74.3
-80	170 300	227 935	74.7
-81	173 100	230 439	75.1
-82	176 800	234 150	75.5
-83	182 000	239 842	75.9
-84	188 500	247 084	76.3
-85	195 400	254 757	76.7

Note: Col. 4 is not necessarily equal to the percentage of population graduating from high school, since migration between birth and graduation affects the ratio. With migration at a constant rate, the ratio would have the same trend as the percentage of population graduating from high school.

Table E1

Trend Projection of High School Graduates, for Single Years and for Groups of Years; 1949-50 through 1984-85

School year	High school graduates			Groups of high school graduates, State	
	State	New York metropolitan area	Upstate	2 year sum	4 year sum
1	2	3	4	5	6
		Actual			
1949-50	113 347	70 357	42 990	229 047	466 647
-51	110 729	68 954	41 775	224 076	459 076
-52	110 324	68 119	42 205	221 053	450 100
-53	118 516	74 825	43 691	228 840	452 916
-54	109 882	65 907	43 975	228 398	449 451
-55	115 191	69 783	45 408	225 073	453 913
-56	117 942	70 582	47 360	233 133	461 531
-57	118 847	71 819	47 028	236 789	461 862
-58	126 703	77 263	49 440	245 550	478 683
-59	139 536	84 637	54 899	266 239	503 028
		Projected			
-60	160 500	98 600	61 900	300 036	545 586
-61	165 800	100 300	65 500	326 300	592 539
-62	160 300	96 300	64 000	326 100	626 136
-63	164 800	99 800	65 000	325 100	651 400
-64	197 700	121 700	76 000	362 500	688 600
-65	214 400	128 400	86 000	412 100	737 200
-66	203 600	117 600	86 000	418 000	780 500
-67	212 500	126 900	85 600	416 100	828 200
-68	215 900	128 800	87 100	428 400	846 400
-69	223 900	133 400	90 500	439 800	855 900
-70	231 800	137 700	94 100	455 700	884 100
-71	238 100	141 200	96 900	469 900	909 700
-72	244 200	144 400	99 800	482 300	938 000
-73	250 900	148 100	102 800	495 100	965 000
-74	258 400	152 100	106 300	509 300	991 600
-75	266 200	156 200	110 000	524 600	1 019 700
-76	271 800	159 700	112 100	538 000	1 047 300
-77	275 600	162 400	113 200	547 400	1 072 000
-78	279 500	164 800	114 700	555 100	1 093 100
-79	284 100	167 500	116 600	563 600	1 111 000
-80	289 000	170 300	118 700	573 100	1 128 200
-81	293 900	173 100	120 800	582 900	1 146 500
-82	300 300	176 800	123 500	594 200	1 167 300
-83	309 300	182 000	127 300	609 600	1 192 500
-84	320 200	188 500	131 700	629 500	1 223 700
-85	331 700	195 400	136 300	651 900	1 261 500

Source: Col. 3 from table D2. Col. 4 from table A4.
Cols. 2, 5, 6 by addition.

Table E2

Trend Projection of High School Graduates as Percent of Birth Group; State; 1949-50 to 1984-85

School year	High school graduates	Birth group	Ratio: high school graduates / birth group
1	2	3	4
1949-50	113 347	-	-
-51	110 729	-	-
-52	110 324	-	-
-53	118 516	184 469	64.2%
-54	109 882	184 027	59.7
-55	115 191	185 699	62.0
-56	117 942	187 906	62.8
-57	118 847	190 420	62.4
-58	126 703	196 799	64.4
-59	139 536	212 685	65.6
-60	160 500	232 219	69.1
-61	165 800	240 100	69.1
-62	160 300	236 900	67.7
-63	164 800	245 309	67.2
-64	197 700	275 506	71.8
-65	214 400	301 177	71.2
-66	203 600	306 646	66.4
-67	212 500	302 902	70.2
-68	215 900	304 771	70.8
-69	223 900	313 112	71.5
-70	231 800	321 330	72.1
-71	238 100	327 175	72.8
-72	244 200	333 318	73.3
-73	250 900	340 072	73.8
-74	258 400	347 887	74.3
-75	266 200	355 873	74.8
-76	271 800	360 915	75.3
-77	275 600	363 643	75.8
-78	279 500	366 892	76.2
-79	284 100	371 064	76.6
-80	289 000	375 452	77.0
-81	293 900	379 840	77.4
-82	300 300	386 112	77.8
-83	309 300	395 670	78.2
-84	320 200	407 552	78.6
-85	331 700	420 010	79.0

Source: Col. 2 from table E1. Col. 3, sum of birth group for New York City, table D2, and for upstate, table A5. Each of these is merely a combination of births of neighboring years appropriate to high school graduates in the two areas; no births are added or subtracted.

Table E3

Low Projection of High School Graduates, Assuming Percent of Birth Group Graduating from High School Increases Half as Much as in Trend Projection and Assuming Projected Births do not Increase; State; 1959-60 to 1984-85

School year (high school graduates)	Birth group	Projected ratio: high school graduates / birth group	High school graduates (low projection)	Sum of high school graduates	
				4 years	2 years
1	2	3	4	5	6
		Actual			
1958-59	212 685	65.6%	139 536	503 028	266 239
		Projected			
-60	232 219	67.4	156 500	541 586	296 036
-61	240 100	67.4	161 800	584 539	318 300
-62	236 900	66.6	157 800	615 636	319 600
-63	245 309	66.4	162 900	639 000	320 700
-64	275 506	68.7	189 300	671 800	352 200
-65	301 177	68.4	206 000	716 000	395 300
-66	306 646	66.0	202 400	760 600	408 400
-67	302 902	67.9	205 700	803 400	408 100
-68	304 771	68.2	207 900	822 000	413 600
-69	313 112	68.6	214 800	830 800	422 700
-70	321 330	68.8	221 100	849 500	435 900
-71	327 175	69.2	226 400	870 200	447 500
-72	333 318	69.4	231 [illegible]00	893 600	457 700
-73	340 072	69.7	237 000	915 800	468 300
-74	347 887	70.0	243 500	938 200	480 500
-75	355 873	70.2	249 800	961 600	493 300
-76	360 915	70.4	254 100	984 400	503 900
-77	362 365	70.7	256 200	1 003 600	510 300
-78	362 391	70.9	256 900	1 017 000	513 100
-79	362 138	71.1	257 500	1 024 700	514 400
-80	362 033	71.3	258 100	1 028 700	515 600
-81	↓	71.5	258 900	1 031 400	517 000
-82		71.7	259 600	1 034 100	518 500
-83		71.9	260 300	1 036 900	519 900
-84		72.1	261 000	1 039 800	521 300
-85		72.3	261 700	1 042 600	522 700

Source: Col. 2 from table E2; except calendar year births after 1959 are kept constant at 1959 figure of 363,124. Col. 3 is projected from 1958-59 with an increase half as much as in the trend projection, table E. Col. 4 is col. 2 times col. 3. Cols. 5 and 6 are sums of col. 4.

Table F1

Trend Projection of High School Graduates, by Economic Area and by Metropolitan Status; 1951-52 Through 1974-75

School year	State	N.Y.C. Metropolitan area	Upstate	All Metropolitan counties, including N.Y.C. area	All non-Metropolitan counties (all upstate)	Upstate Metropolitan counties	Binghamton	
							Total	Metropolitan county
1	2	3	4	5	6	7	8	9
1951-52	110 324	68 119	42 205	92 158	18 166	24 039	2 803	1 652
1952-53	118 516	74 825	43 691	99 649	18 867	24 824	2 966	1 725
1953-54	109 882	65 907	43 975	90 701	19 181	24 794	3 008	1 726
1954-55	115 191	69 783	45 408	95 563	19 628	25 780	3 057	1 792
1955-56	117 942	70 582	47 360	97 458	20 484	26 876	3 114	1 773
1956-57	118 847	71 819	47 028	98 490	20 357	26 671	3 049	1 802
1957-58	126 703	77 263	49 440	105 435	21 268	28 172	3 282	1 909
1958-59	139 536	84 637	54 899	116 826	22 710	32 189	3 403	1 955
1959-60	160 500	98 600	61 900	135 100	25 400	36 500	3 800	2 300
1960-61	165 800	100 300	65 500	138 700	27 100	38 400	4 100	2 500
1961-62	160 300	96 300	64 000	133 700	26 600	37 400	4 100	2 400
1962-63	164 800	99 800	65 000	138 100	26 700	38 300	4 100	2 500
1963-64	197 700	121 700	76 000	166 800	30 900	45 100	4 800	3 000
1964-65	214 400	128 400	86 000	179 400	35 000	51 000	5 400	3 400
1965-66	203 600	117 600	86 000	168 900	34 700	51 300	5 200	3 300
1966-67	212 500	126 900	85 600	178 200	34 300	51 300	5 200	3 300
1967-68	215 900	128 800	87 100	181 100	34 800	52 300	5 200	3 400
1968-69	223 900	133 400	90 500	187 900	36 000	54 500	5 400	3 500
1969-70	231 800	137 700	94 100	194 600	37 200	56 900	5 600	3 700
-75	266 200	156 200	110 000	223 800	42 400	67 600	6 400	4 500

Table F1 (continued)

School year	Capital District		Elmira (non-Metropolitan)	Mid-Hudson (non-Metropolitan)	Mohawk Valley		Niagara Frontier (Metropolitan)	Northern (non-Metropolitan)
	Total	Metropolitan counties			Total	Metropolitan counties		
1	10	11	12	13	14	15	16	17
1951-52	5 336	4 461	2 308	4 058	3 100	2 200	8 577	2 926
1952-53	5 521	4 476	2 412	4 284	3 100	2 300	9 071	2 910
1953-54	5 705	4 691	2 418	4 351	3 300	2 300	8 828	3 087
1954-55	5 644	4 633	2 333	4 595	3 300	2 400	9 328	3 051
1955-56	6 098	5 041	2 641	4 638	3 400	2 400	9 815	3 240
1956-57	6 152	5 122	2 523	4 707	3 400	2 500	9 499	3 196
1957-58	6 328	5 212	2 802	4 938	3 600	2 600	10 211	3 326
1958-59	7 111	5 941	2 868	5 409	3 900	2 800	12 184	3 528
1959-60	8 100	6 900	3 200	6 100	4 500	3 200	13 100	3 800
1960-61	8 600	7 200	3 500	6 500	4 700	3 400	13 500	4 100
1961-62	8 300	7 000	3 300	6 500	4 500	3 300	13 100	4 100
1962-63	8 400	7 100	3 300	6 700	4 500	3 300	13 600	4 000
1963-64	10 000	8 500	3 900	7 900	5 300	3 900	15 800	4 600
1964-65	11 200	9 500	4 400	8 900	6 000	4 400	17 800	5 200
1965-66	10 900	9 400	4 300	8 900	6 000	4 400	18 200	5 300
1966-67	10 700	9 200	4 200	8 900	5 900	4 400	18 400	5 400
1967-68	10 800	9 300	4 300	9 200	5 900	4 400	18 900	5 400
1968-69	11 200	9 600	4 400	9 600	6 100	4 600	19 600	5 600
1969-70	11 600	10 000	4 500	10 000	6 300	5 700	20 500	5 800
-75	13 200	11 600	5 100	12 000	7 300	5 500	24 200	6 600

Table F1 (continued)

School year	Rochester		Southwest Gateway (non-Metropolitan)	Syracuse	
	Total	Metropolitan counties		Total	Metropolitan counties
1	18	19	20	21	22
1951-52	6 292	3 447	2 292	4 506	3 722
1952-53	6 446	3 519	2 331	4 619	3 782
1953-54	6 357	3 432	2 329	4 640	3 812
1954-55	6 619	3 663	2 527	4 905	3 971
1955-56	6 857	3 791	2 489	5 050	4 024
1956-57	7 010	3 737	2 550	4 972	4 057
1957-58	7 255	3 995	2 551	5 192	4 274
1958-59	7 910	4 542	2 829	5 771	4 766
1959-60	9 500	5 500	3 100	6 600	5 500
1960-61	10 200	6 000	3 200	7 200	5 900
1961-62	10 000	5 900	3 200	6 900	5 700
1962-63	10 400	6 100	3 100	6 900	5 700
1963-64	12 000	7 200	3 600	8 100	6 800
1964-65	13 700	8 200	4 200	9 300	7 700
1965-66	13 800	8 200	4 100	9 300	7 800
1966-67	13 700	8 300	4 000	9 200	7 800
1967-68	13 900	8 400	4 000	9 400	8 000
1968-69	14 600	8 900	4 100	9 900	8 300
1969-70	15 300	9 300	4 200	10 200	8 700
-75	18 400	11 500	4 700	12 100	10 400

Notes

Detail may not add to totals because of rounding.

Metropolitan counties are those so defined in the 1960 decennial census; the same as in 1950 except for the addition of Madison and Oswego counties to the Syracuse Metropolitan area, and Saratoga County to the Capital District (Albany-Schenectady-Troy) Metropolitan area.

The counties in each area are as follows:

New York City Metropolitan area--5 New York City counties, Nassau, Suffolk, Rockland, Westchester.

Binghamton--Metropolitan, Broome; non-Metropolitan, Chenango, Delaware, Otsego.

Capital District--Metropolitan, Albany, Rensselaer, Saratoga, Schenectady; non-Metropolitan, Schoharie, Warren, Washington.

Elmira--(non-Metropolitan) Chemung, Schuyler, Steuben, Tioga, Tompkins.

Mid-Hudson--(non-Metropolitan) Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster.

Mohawk Valley--Metropolitan, Herkimer, Oneida; non-Metropolitan, Fulton, Hamilton, Montgomery.

Niagara Frontier--(Metropolitan) Erie, Niagara.

Northern--(non-Metropolitan) Clinton, Essex, Franklin, Jefferson, Lewis, St. Lawrence.

Rochester--Metropolitan, Monroe; non-Metropolitan, Genesee, Livingston, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates.

Southwest Gateway--(non-Metropolitan) Allegany, Cattaraugus, Chautauqua.

Syracuse--Metropolitan, Madison, Onondaga, Oswego; non-Metropolitan, Cayuga, Cortland.

Method of projecting high school graduates in each of the upstate Metropolitan and non-Metropolitan areas:

In brief, high school graduates in each area are projected to 1963-64 by relating them to children aged 11 on the school census; then to 1967-68 by relating them to children aged 7 on the school census; then to 1974-75 by extending the trend of each area as a percent of the entire upstate area with respect to high school graduates. All these area projections are then adjusted to add to the total graduates for the entire upstate area, as previously determined. In more detail, the procedure may be described as a series of steps; (A) High school graduates are related to resident minors aged 11 on the school census averaged for the 5th and 6th school years before (i.e., to individuals who will be 16 and 17 years old in the fall of the school year of graduation). The ratios thus obtained for the last 3 actual years of high school graduates (1956-57, 1957-58, 1958-59) are averaged, and this average ratio is applied to actual data on resident minors aged 11 to project high school graduates to 1963-64. (B) The actual and projected high school graduates are then related to resident minors aged 7 on the school census averaged for the 9th and 10th school years before (i.e., to individuals who will be 16 and 17 years old in the fall of the school year of graduation). The ratios thus obtained for the last 3 years of high school graduates previously projected (1961-62, 1962-63, 1963-64) are averaged, and this average ratio is applied to actual data on resident minors aged 7 to project high school graduates to 1967-68. (C) The projected high school graduates for the upstate areas for each year 1959-60 through 1967-68 are adjusted to add to the previously determined total for high school graduates in the entire upstate area (excluding the New York City area). (D) The trend of graduates in each area (actual and projected to 1967-68) as percent of the upstate total graduates, is extended graphically to 1974-75. These percentages are adjusted to add to 100 each year for all the upstate areas together; and then are applied to the projected high school graduates for the entire upstate area. Detailed work tables are available for inspection in the Bureau of Statistical Services, University of the State of New York, Albany, New York.

Table F2

Groups of High School Graduates Corresponding to Enrollment in 4-year and 2-year institutions, by Economic Areas; 1959-75

Economic area	Fall 1959		Fall 1965		Fall 1970		Fall 1975	
	4 year	2 year	4 year	2 year	4 year	2 year	4 year	2 year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
New York City Metropolitan area	235 145	130 995	347 140	201 420	403 955	217 710	460 400	247 460
Binghamton	9 870	5 372	14 330	8 280	16 410	8 840	18 785	10 120
Capital District	19 820	10 908	29 555	17 200	33 975	18 320	38 855	20 880
Elmira	8 326	4 549	11 615	6 740	13 225	7 140	15 155	8 100
Mid-Hudson	15 187	8 372	23 405	13 640	28 965	15 760	34 405	18 900
Mohawk Valley	11 020	6 060	15 825	9 180	18 545	9 960	21 400	11 560
Niagara Frontier	32 396	18 311	47 005	27 280	59 445	32 260	70 470	38 180
Northern	10 206	5 524	13 915	7 960	17 020	9 160	19 460	10 440
Rochester	22 365	12 263	35 960	20 900	44 190	24 060	53 385	29 020
Southwest Gateway	8 018	4 360	10 995	6 360	12 475	6 660	13 860	7 400
Syracuse	16 179	8 886	24 345	14 160	29 715	16 140	35 240	19 120

Source: Basic data on high school graduates from Table F1; data for 1970-71 through 1973-74 from worksheets.

Columns 2,4,6,8. The group corresponding to undergraduate enrollment in 4 year institutions is 100% of the graduates the preceding year, 75% of graduates 2 years earlier, 65% of graduates 3 years earlier, and 65% of graduates 4 years earlier.

Columns 3,5,7,9. The group corresponding to enrollment in 2 year institutions is 100% of the graduates the preceding year plus 60% of the graduates 2 years earlier.

Table F3

College Attendance of High School Graduates by Economic Area

Economic area	Plans of seniors to attend college, spring, 1956			Public high school graduates of 1957 and 1958 attending college, as reported by high schools		
	4-year college	2-year college	4 or 2 year college	4-year college	2-year college	4 or 2 year college
1	2	3	4	5	6	7
New York Metropolitan area	46*	7*	53*	a	a	a
Binghamton	25	10	35	26	11	37
Capital District	29	7	36	29	8	37
Elmira	27	7	34	26	8	34
Mid-Hudson	30	10	40	29	12	41
Mohawk Valley	27	9	36	26	10	36
Niagara Frontier	37	8	46	31	7	38
Northern	25	8	33	23	8	31
Rochester	34	7	41	31	7	38
Southwest Gateway	28	9	37	27	10	37
Syracuse	33	8	41	33	8	41
Upstate	31*	8*	39*	29	8	37
State	40*	7*	47*	a	a	a

*Totals derived by weighting area percentages by actual 1955-56 high school graduates in each area.

[a] New York City reports of uncertain reliability.

Source: Columns 2-4, Needs and Facilities in Higher Education.
Columns 5-7, unpublished data from State Education Department, Bureau of Statistical Services.

Table F4

Estimated Attendance Rates From Economic Areas; Adjusted for Increase as in Judgment Projection: 1959-75 (Increased Rates Distributed to Areas in Inverse Proportion to 1959 rates)

Economic area	1959 attendance rates		Increment for increased attendance (distributed inversely to 1959 rates)					
	4-year colleges	2-year colleges	1965		1970		1975	
			4 year	2 year	4 year	2 year	4 year	2 year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
New York Metropolitan area	53.40	8.04	1.11	2.35	2.44	4.36	3.22	6.33
Binghamton	29.02	11.49	2.05	1.64	4.48	3.05	5.92	4.43
Capital District	33.67	8.04	1.77	2.35	3.86	4.36	5.10	6.33
Elmira	31.34	8.04	1.90	2.35	4.15	4.36	5.48	6.33
Mid-Hudson	34.83	11.49	1.71	1.64	3.74	3.05	4.93	4.43
Mohawk Valley	31.34	10.34	1.90	1.82	4.15	3.39	5.48	4.92
Niagara Frontier	42.95	9.19	1.38	2.05	3.03	3.82	4.00	5.54
Northern	29.02	9.19	2.05	2.05	4.48	3.82	5.92	5.54
Rochester	39.47	8.04	1.51	2.35	3.30	4.36	4.35	6.33
Southwest Gateway	32.51	10.34	1.83	1.82	4.00	3.39	5.28	4.92
Syracuse	38.31	9.19	1.55	2.05	3.40	3.82	4.48	5.54

Source: Column 2 is % of 1958 seniors planning to attend 4-year college, increased by 16.09% to give total enrollment of 180,974 (162,432 + 18,542 net out-migration).

Column 3 is % of 1958 seniors planning to attend 2-year college, increased by 14.91% to give total enrollment of 18,431.

Columns 4,6,8 are column 2 rates increased inversely to column 2 to give enrollments (from Table H1 and H2) of 275,210 (244,800 + 30,410); 335,170 (297,900 + 37,270); and 393,014 (348,700 + 44,314).

Columns 5,7,9 are column 3 rates increased inversely to column 3 to give enrollments (from Table H1) of 35,900; 46,500; and 61,400.

Table F5

Estimated Full-time Undergraduate Attendance of New York Residents by Area: Fall 1959

	Total attendance of N.Y. residents		Migration out of State			Attendance of N.Y. residents			
						In New York		Outside New York	
Economic area	4 year	2 year	Migration of 1958 seniors planning to attend college	Number at 1958 rates	Number adjusted to expected total	Lower division	Upper division	Lower division	Upper division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New York Metropolitan area	125 567	10 532	22%	29 942	33 272	65 909	36 918	19 963	13 309
Binghamton	2 864	617	20	696	773	1 872	836	464	309
Capital District	6 673	877	28	2 114	2 349	3 471	1 730	1 409	940
Elmira	2 609	366	24	714	793	1 456	726	476	317
Mid-Hudson	5 290	962	33	2 063	2 292	2 761	1 199	1 375	917
Mohawk Valley	3 454	627	22	898	998	2 101	902	599	399
Niagara Frontier	13 914	1 683	20	3 119	3 466	7 952	4 179	2 080	1 386
Northern	2 962	508	21	729	810	1 799	861	486	324
Rochester	8 827	986	24	2 355	2 617	4 712	2 484	1 570	1 047
Southwest Gateway	2 607	451	30	917	1 019	1 404	635	611	408
Syracuse	6 198	817	22	1 543	1 715	3 507	1 793	1 029	686
Total Upstate	55 398	7 894	X	15 148	16 832	31 035	15 425	10 099	6 733
Total State	180 965	18 426	X	45 090	50 104	96 944	52 343	30 062	20 042

Source: Column 2 is column 2 in Table F2 times column 2 in Table F4. Column 3 is column 3 in Table F2 times column 3 in Table F4. Column 4 is derived from 1958 study of plans of seniors. Column 5 is column 4 times sum of columns 2,3. Column 6 total of 50,104 from Table H2. Column 7 is column 3 plus 60% of column 2 minus 60% of column 6. Column 8 is 40% of column 2 minus 40% of column 6. Column 9 is 60% of column 6. Column 10 is 40% of column 6.

Table F6

Estimated Full-time Undergraduate Attendance of New York Residents by Area of Residence; Judgment Projection: Fall 1965

Economic area	Total attendance of N.Y. residents		Migration out of State		Attendance of N.Y. residents			
					In New York		Outside New York	
	4 year	2 year	At 1958 rates	Adjusted to expected total	Lower division	Upper division	Lower division	Upper division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
New York Metropolitan area	189 226	20 928	46 234	40 729	110 027	59 398	24 437	16 292
Binghamton	4 452	1 087	1 108	976	3 173	1 390	586	390
Capital District	10 474	1 787	3 433	3 024	6 257	2 980	1 814	1 210
Elmira	3 861	700	1 095	965	2 438	1 158	579	386
Mid-Hudson	8 552	1 791	3 413	3 007	5 118	2 218	1 804	1 203
Mohawk Valley	5 260	1 116	1 403	1 236	3 530	1 610	742	494
Niagara Frontier	20 837	3 066	4 781	4 212	13 041	6 650	2 527	1 685
Northern	4 323	895	1 096	965	2 910	1 343	579	386
Rochester	14 736	2 172	4 058	3 575	8 869	4 464	2 145	1 430
Southwest Gateway	3 776	773	1 365	1 202	2 317	1 030	721	481
Syracuse	9 704	1 592	2 485	2 189	6 101	3 006	1 313	876
Total Upstate	85 975	14 979	24 237	21 351	53 754	25 849	12 810	8 541
Total State	275 201	35 907	70 471	62 080	163 781	85 247	37 247	24 833

Source: Column 2 is column 4 in Table F2 times sum of columns 2 and 4 in Table F4. Column 3 is column 5 in Table F2 times sum of columns 3 and 5 in Table F4. Column 4 is sum of columns 2 and 3 times column 4 in Table F5. Column 5 total of 62,080 from Table H2. Column 6 is column 3 plus 60% of column 2 minus 60% of column 5. Column 7 is 40% of column 2 minus 40% of column 5. Column 8 is 60% of column 5. Column 9 is 40% of column 5.

Table F7

Estimated Full-time Undergraduate Attendance of New York Residents by Area of Residence; Judgment Projection: Fall 1970

Economic area	Total attendance of N.Y. residents		Migration out of State		Attendance of N.Y. residents			
					In New York		Outside New York	
	4 year	2 year	At 1958 rates	Adjusted to expected total	Lower division	Upper division	Lower division	Upper division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
New York Metropolitan area	225 568	27 000	55 565	44 325	135 746	72 497	26 595	17 730
Binghamton	5 497	1 285	1 356	1 082	3 934	1 766	649	433
Capital District	12 751	2 272	4 206	3 355	7 910	3 758	2 013	1 342
Elmira	4 729	885	1 347	1 075	3 077	1 462	645	430
Mid-Hudson	11 172	2 292	4 443	3 544	6 869	3 051	2 126	1 418
Mohawk Valley	6 582	1 368	1 749	1 395	4 480	2 075	837	558
Niagara Frontier	27 333	4 197	6 306	5 030	17 579	8 921	3 018	2 012
Northern	5 702	1 192	1 448	1 155	3 920	1 819	693	462
Rochester	18 900	2 983	5 252	4 190	11 809	5 884	2 514	1 676
Southwest Gateway	4 555	914	1 641	1 309	2 862	1 298	785	524
Syracuse	12 394	2 100	3 189	2 544	8 010	3 940	1 526	1 018
Total Upstate	109 615	19 488	30 937	24 679	70 450	33 974	14 806	9 873
Total State	335 183	46 488	86 502	69 004	206 196	106 471	41 401	27 603

Source: Column 2 is column 6 in Table F2 times sum of columns 2 and 6 in Table F4. Column 3 is column 7 in Table F2 times sum of columns 3 and 7 in Table F4. Column 4 is sum of columns 2 and 3 times column 4 in Table F5. Column 5 total of 69,004 from Table H2. Columns 6-9 computed as in Table F6.

Table F8

Estimated Full-time Undergraduate Attendance of New York Residents by Area of Residence; Judgment Projection: Fall 1975

Economic area	Total attendance of N.Y. residents		Migration out of State		Attendance of N.Y. residents			
					In New York		Outside New York	
	4 year	2 year	At 1958 rates	Adjusted to expected total	Lower division	Upper division	Lower division	Upper division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
New York Metropolitan area	260 678	35 560	65 172	48 130	163 089	85 019	28 878	19 252
Binghamton	6 563	1 611	1 635	1 207	4 825	2 142	724	483
Capital District	15 064	3 000	5 058	3 735	9 797	4 532	2 241	1 494
Elmira	5 580	1 164	1 619	1 196	3 794	1 754	718	478
Mid-Hudson	13 679	3 009	5 507	4 067	8 776	3 845	2 440	1 627
Mohawk Valley	7 879	1 784	2 121	1 566	5 552	2 525	940	626
Niagara Frontier	33 006	5 624	7 742	5 717	22 015	10 948	3 430	2 287
Northern	6 799	1 530	1 751	1 293	4 842	2 202	776	517
Rochester	23 393	4 170	6 615	4 885	15 275	7 403	2 931	1 954
Southwest Gateway	5 238	1 129	1 910	1 411	3 425	1 531	847	564
Syracuse	15 079	2 816	3 937	2 908	10 119	4 868	1 745	1 163
Total Upstate	132 360	25 825	37 895	27 985	88 450	41 750	16 792	11 193
Total State	393 038	61 385	103 067	76 115	251 539	126 769	45 670	30 445

Source: Column 2 is column 8 in Table F2 times sum of columns 2 and 8 in Table F4. Column 3 is column 9 in Table F2 times the sum of columns 3 and 9 in Table F4. Column 4 is the sum of columns 2 and 3 times column 4 in Table F5. Column 5 total of 76,115 from Table H2. Columns 6-9 computed as in Table F6.

Table G1

Fall College Enrollment, by Level, Type of Institution: and by Full--and Part-time Status; State: 1956 through 1959 (Figures Adjusted for Comparability--See Footnotes)

Category	1959[a]	1958	1957	1956
1	2	3	4	5
UNDERGRADUATE AND UNCLASSIFIED				
Full-time, 4-year institutions	162,432	155,322	152,714	151,379
Full-time, 2-year institutions	18,431	16,193	14,222	13,003
Total	180,863	171,515	166,936	164,382
Part-time, 4-year institutions	123,919	115,095	105,155	107,617
Part-time, 2-year institutions	20,270	14,744	16,719	14,344
Total	144,189	129,839	121,874	121,961
GRADUATE (including advanced 1st professional such as medicine, law, etc.)				
Full-time, 4-year institutions	24,620	23,468	23,166	N. A.
Part-time, 4-year institutions	51,671	53,735	53,632	N. A.
Total	76,291	77,203	76,798	62,525
TOTAL				
Full-time	205,483	194,983	190,102	N. A.
Part-time	195,860	183,574	175,506	N. A.
Total	401,343	378,557	365,608	348,868

Source: State University of New York, and State Education Department published and unpublished data on fall enrollments.

The figures have been adjusted for comparability so that unclassified full-time and part-time will be included with undergraduate full-time and part-time; also the definition of graduate level in 1958 and 1959 is followed, including at the graduate level first professional enrollment in such fields as medicine, dentistry, veterinary medicine, law, theology.

Full-time unclassified enrollment must be added to published full-time figures as follows: In 1959, 4,489 in 4-year institutions, and 247 in 2-year institutions. In 1956, 6,510 in 4-year institutions (estimated the same as in 1957) and 80 in 2-year institutions (estimated as all of the unclassified; the figure for full-time unclassified in 1957 being 102).

Transfers from the undergraduate category to the graduate category as follows: In 1957, 9,505 full-time in 4-year institutions and 1,961 part-time in 4-year institutions. In 1956, 9,676 full-time in 4-year institutions and 1,706 part-time in 4-year institutions.

[a] The published totals for 1959 may include a duplication of the enrollment in the State University contract colleges at Cornell. If so, the figures for 1959 should be reduced as follows, reading from top to bottom of the 1959 column: 160,154; 18,431; 178,585; 123,454; 20,270; 143,724; 23,704; 51,653; 75,357; 202,289; 195,377; 397,666.

Table G2

Ratio of Full-time Enrollments to High School Graduates; State 1950-1959

Year (Fall)	High school graduates		4-year institutions				2-year institutions	
			All levels		Undergraduate and unclassified			
	Preceding 4 years	Preceding 2 years	Number	% of graduates	Number	% of graduates	Total number	% of graduates
1	2	3	4	5	6	7	8	9
1950	466,647	229,047	173,326	37.1	N. A.	N. A	11,120	4.9
1951	459,076	224,076	159,217	34.7	↓	↓	10,125	4.5
1952	450,100	221,053	151,191	33.6	↓	↓	10,551	4.8
1953	452,916	228,840	155,182	34.3	↓	↓	11,482	5.0
1954	449,451	228,398	157,866	35.1	↓	↓	12,576	5.5
1955	453,913	225,073	165,069	36.4	↓	↓	13,746	6.1[a]
1956	461,531	233,133	N. A.	N. A.	151,379	32.8	13,003	5.6[a]
1957	461,862	236,789	175,880	38.1	152,714	33.1	14,222	6.0
1958	478,683	245,550	178,790	37.4	155,322	32.4	16,193	6.6
1959[b]	503,028	266,239	187,052	37.2	162,432	32.3	18,431	6.9
Sum 1956-59	1,905,104				621,847	32.6		

Source: Cols. 2, 3, from table E1
Cols. 4, 8, from State University publication dated February 19, 1960, with adjustments explained on table G1.
Col. 6, from table G1.

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[a] Rochester Institute of Technology shifted from a 2-year institution in 1955 to a 4-year institution in 1956, causing an apparent drop in 2-year enrollment relative to high school graduates.

[b] See table G1 for comment on possible duplication in 1959 statistics. If so, cols. 4-7 for 1959 are reduced to: 183,858; 36.6%; 160,154; 31.8%.

Table G3

Full-time Enrollment in Public 2-year Institutions, by Type of Program; 1954-1959

Year (fall)	Full-time enrollment in day division			Percent in transfer programs
	Total	Transfer programs[1]	Terminal-technical programs	
1	2	3	4	5
1954	9,878	394	9,484	4%
1955	10,595	524	10,071	5
1956	11,441	694	10,747	6
1957	12,193	776	11,417	6
1958	14,023	1,215	12,808	9
1959	15,974	1,853	14,121	12
Increase 1954-59	6,096	1,459	4,637	24

Source: State University of New York, Research Office; unpublished data.

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[1] Transfer programs comprise courses leading to an Associate of Arts degree which can be credited towards a bachelor's degree upon transfer to another institution.

Table H1

Judgment Projection of Full-time Undergraduate College Enrollment in New York State (Uncorrected for Migration Changes)

Year (fall)	High school graduates (trend projection)		Ratio of enrollment to graduates		Full-time undergraduate enrollment	
	Sum of 4 years preceding	Sum of 2 years preceding	4-year insti-tution	2-year insti-tution	4-year program	2-year program
1	2	3	4	5	6	7
1956	461 531	233 133	32.8%	5.6%	151 379	13 003
57	461 862	236 789	33.1	6.0	152 714	14 222
58	478 683	245 550	32.4	6.6	155 322	16 193
59	503 028	266 239	32.3	6.9	162 432	18 431
			32.6 for 4 years			
1960	545 586	300 036	32.7	7.2	178 400	21 600
61	592 539	326 300	32.8	7.5	194 400	24 500
62	626 136	326 100	32.9	7.8	206 000	25 400
63	651 400	325 100	33.0	8.1	215 000	26 300
64	688 600	362 500	33.1	8.4	227 900	30 400
65	737 200	412 100	33.2	8.7	244 800	35 900
66	780 500	418 000	33.3	9.0	259 900	37 600
67	828 200	416 100	33.4	9.3	276 600	38 700
68	846 400	428 400	33.5	9.6	283 500	41 100
69	855 900	439 800	33.6	9.9	287 600	43 500
70	884 100	455 700	33.7	10.2	297 900	46 500
71	909 700	469 900	33.8	10.5	307 500	49 300
72	938 000	482 300	33.9	10.8	318 000	52 100
73	965 000	495 100	34.0	11.1	328 100	55 000
74	991 600	509 300	34.1	11.4	338 100	58 100
75	1 019 700	524 600	34.2	11.7	348 700	61 400
76	1 047 300	538 000	34.3	12.0	359 200	64 600
77	1 072 000	547 400	34.4	12.3	368 800	67 300
78	1 093 100	555 100	34.5	12.6	377 100	69 900
79	1 111 000	563 600	34.6	12.9	384 400	72 700
80	1 128 200	573 100	34.7	13.2	391 500	75 600
81	1 146 500	582 900	34.8	13.5	399 000	78 700
82	1 167 300	594 200	34.9	13.8	407 400	82 000
83	1 192 500	609 600	35.0	14.1	417 400	86 000
84	1 223 700	629 500	35.1	14.4	429 500	90 600
85	1 261 500	651 900	35.2	14.7	444 000	95 800

Source: Columns 2, 3 from Table E1. Columns 4, 5 from Table G2 for 1956-59. Column 4, projected increase from 1956-59 average of .1 a year. Column 5, projected increase from 1959 of .3 a year. Column 6 is column 2 times column 4. Column 7 is column 3 times column 5.

Table H2

Adjustments of Judgment Projection for Changes in Migration of Students Across State Lines. (Assumes No Growth in Numbers Crossing State Lines to Attend Public Colleges; Assumes Growth at Half Total Growth in Numbers Crossing State Line to Attend Private Colleges)

Item	1958 Actual	1965	1970	1975	1980	1985
1	2	3	4	5	6	7
1. Projected percentage growth from 1958 in full-time undergraduate enrollment in N. Y. institutions, unadjusted for migration changes (Table H1)	0%	64%	101%	139%	172%	215%
N. Y. residents attending private institutions in other States:						
2. As allowed in projection	37 426	61 379	75 226	89 448	101 799	117 892
3. As estimated (growth ½ total rate)	37 426	49 402	56 326	63 437	69 612	77 659
4. Additional enrollment in N.Y.	0	11 977	18 900	26 011	32 187	40 233
N. Y. residents attending public institutions in other States:						
5. As allowed in projection	12 678	20 792	25 483	30 300	34 484	39 936
6. As estimated (no growth)	12 678	12 678	12 678	12 678	12 678	12 678
7. Additional enrollment in N. Y.	0	8 114	12 805	17 622	21 806	27 258
Residents of other States attending private institutions in N. Y.:						
8. As allowed in projection	27 827	45 636	55 932	66 507	75 689	87 655
9. As estimated (growth ½ total rate)	27 827	36 732	41 880	47 167	51 758	57 741
10. Available places in N. Y.	0	8 904	14 052	19 340	23 931	29 914
Residents of other States attending public institutions in N. Y.:						
11. As allowed in projection	3 735	6 125	7 507	8 927	10 159	11 765
12. As estimated (no growth)	3 735	3 735	3 735	3 735	3 735	3 735
13. Available places in N. Y.	0	2 390	3 772	5 192	6 424	8 030
14. Total additional places in N. Y. to be added to projection	0	8 800	13 900	19 100	23 600	29 500

Source: Column 2 from 1958 survey of migration by American Association of Collegiate Registrars and Admissions Officers.

Row 1, derived from Table H1.
Row 14, is row 4 + row 7 - row 10 - row 13.

Table H3

Judgment Projection of Full-time Undergraduate Enrollment in New York; Lower Division and Upper Division; Adjusted for Changes in Migration[1]

Item	1965	1970	1975	1980	1985
1	2	3	4	5	6
Full-time undergraduate enrollment, without adjustment for change in migration:					
2-year	35 900	46 500	61 400	75 600	95 800
4-year	244 800	297 900	348 700	391 500	444 000
Additions caused by changes in migration	8 800	13 900	19 100	23 600	29 500
4-year enrollment adjusted for migration change	253 600	311 800	367 800	415 100	473 500
Lower division 4-year (60%)	152 200	187 100	220 700	249 100	284 100
Upper division 4-year (40%)	101 400	124 700	147 100	166 000	189 400
Total lower division	188 100	233 600	282 100	324 700	379 900
Total upper division	101 400	124 700	147 100	166 000	189 400
Grand total	289 500	358 300	429 200	490 700	569 300

Source: First 3 rows of data from Tables H1 and H2.

[1] Migration change is taken to be full-time, and is applied to 4-year institutions (less than 10 percent of net migration was in junior colleges in 1958).

Table H4

High Projection of Full-time Undergraduate College Enrollment in New York State (uncorrected for migration changes)

Year (fall)	High school graduates (trend projection)		Ratio of enrollment to graduates		Full-time undergraduate enrollment	
	Sum of 4 years preceding	Sum of 2 years preceding	4 year inst.	2 year inst.	4 year program	2 year program
1	2	3	4	5	6	7
1959	503 028	266 239	4 year avg. 32.6%	6.9%	162 432	18 431
1960	545 586	300 036	33.0	7.3	180 000	21 900
61	592 539	326 300	33.4	7.7	197 900	25 100
62	626 136	326 100	33.8	8.1	211 600	26 400
63	651 400	325 100	34.2	8.5	222 800	27 600
64	688 600	362 500	34.6	8.9	238 300	32 300
65	737 200	412 100	35.0	9.3	258 000	38 300
66	780 500	418 000	35.4	9.7	276 300	40 500
67	828 200	416 100	35.8	10.1	296 500	42 000
68	846 400	428 400	36.2	10.5	306 400	45 000
69	855 900	439 800	36.6	10.9	313 300	47 900
70	884 100	455 700	37.0	11.3	327 100	51 500
71	909 700	469 900	37.4	11.7	340 200	55 000
72	938 000	482 300	37.8	12.1	354 600	58 400
73	965 000	495 100	38.2	12.5	368 600	61 900
74	991 600	509 300	38.6	12.9	382 800	65 700
75	1 019 700	524 600	39.0	13.3	397 700	69 800
76	1 047 300	538 000	39.4	13.7	412 600	73 700
77	1 072 000	547 400	39.8	14.1	426 700	77 200
78	1 093 100	555 100	40.2	14.5	439 400	80 500
79	1 111 000	563 600	40.6	14.9	451 100	84 000
80	1 128 200	573 100	41.0	15.3	462 600	87 700
81	1 146 500	582 900	41.4	15.7	474 700	91 500
82	1 167 300	594 200	41.8	16.1	487 900	95 700
83	1 192 500	609 600	42.2	16.5	503 200	100 600
84	1 223 700	629 500	42.6	16.9	521 300	106 400
85	1 261 500	651 900	43.0	17.3	542 400	112 800

Source: Cols. 2, 3 from table H1 (same as in table H1). Col. 4, projected increase from 1956-59 average of .4 a year. Col. 5, projected increase from 1959 of .4 a year. Col. 6 is col. 2 times col. 4. Col. 7 is col. 3 times col. 5.

Table H5

Adjustment of High Projection for Changes in Migration of Students (Assumes No Growth in Numbers Crossing State Lines to Attend Public Colleges; Assumes Growth at Half the Overall Rate in Numbers Crossing State Lines to Attend Private Colleges)

Item	1958 actual	1965	1970	1975	1980	1985
1	2	3	4	5	6	7
1. Projected percentage growth from 1958 in full-time undergraduate enrollment in N.Y. institutions, unadjusted for migration	0%	73%	121%	173%	221%	282%
N.Y. residents attending private institutions in other States:						
2. As allowed in projection	37 426	64 747	82 711	102 173	120 137	142 967
3. As estimated (growth half total rate)	37 426	51 086	60 069	69 799	78 782	90 197
4. Additional enrollment in N.Y.	0	13 661	22 642	32 374	41 355	52 770
N.Y. residents attending public institutions in other States:						
5. As allowed in projection	12 678	21 933	28 018	34 611	40 696	48 430
6. As estimated	12 678	12 678	12 678	12 678	12 678	12 678
7. Additional enrollment in N.Y.	0	9 255	15 340	21 933	28 018	35 752
Residents of other States attending private institutions in N.Y.:						
8. As allowed in projection	27 827	48 141	61 498	75 968	89 325	106 299
9. As estimated (growth half total rate)	27 827	37 984	44 662	51 897	58 576	67 063
10. Available places in N.Y.	0	10 157	16 836	24 071	30 749	39 236
Residents of other States attending public institutions in N.Y.:						
11. As allowed in projection	3 735	6 462	8 254	10 197	11 989	14 268
12. As estimated	3 735	3 735	3 735	3 735	3 735	3 735
13. Available places in N.Y.	0	2 727	4 519	6 462	8 254	10 533
14. Total additional places in N.Y. to be added to projection	0	10 000	16 600	23 800	30 400	38 800

Source: Col. 2 from 1958 survey of migration by American Association of College Registrars and Admissions Officers. Row 1, derived from table H4. Row 14 is row 4 + row 7 - row 10 - row 13.

Table H6

High Projection of Full-time Undergraduate Enrollment in New York; Lower Division and Upper Division; Adjusted for Changes in Migration[1]

Item	1965	1970	1975	1980	1985
1	2	3	4	5	6
Full-time undergraduate enrollment, without adjustment for changes in migration:					
2-year	38 300	51 500	69 800	87 700	112 800
4-year	258 000	327 100	397 700	462 600	542 400
Additions caused by changes in migration	10 000	16 600	23 800	30 400	38 800
4-year enrollment adjusted for migration change	268 000	343 700	421 500	493 000	581 200
Lower division, 4-year (60%)	160 800	206 200	252 900	295 800	348 700
Upper division, 4-year (40%)	107 200	137 500	168 600	197 200	232 500
Total, lower division	199 100	257 700	322 700	383 500	461 500
Total, upper division	107 200	137 500	168 600	197 200	232 500
Grand total	306 300	395 200	491 300	580 700	694 000

Source: First 3 rows of data from Tables H4 and H5.

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[1] Migration change is taken to be full-time, and is applied to 4-year institutions (less than 10 percent of net migration was in junior colleges in 1958).

Table H7

Low Projection of Full-time Undergraduate College Enrollment in New York State (Uncorrected for Migration Changes)

Year (fall)	High school graduates (low projection)		Ratio of enrollment to graduates		Full-time undergraduate enrollment	
	Sum of 4 years preceding	Sum of 2 years preceding	4-year institution	2-year institution	4-year program	2-year program
1	2	3	4	5	6	7
1959	503 028	266 239	4 year average 32.6%	6.9%	162 432	18 431
1960	541 586	296 036	32.6	7.1	176 600	21 000
61	584 539	318 300		7.3	190 600	23 200
62	615 636	319 600		7.5	200 700	24 000
63	639 000	320 700		7.7	208 300	24 700
64	671 800	352 200		7.9	219 000	27 800
65	716 000	395 300		8.1	233 400	32 000
66	760 600	408 400		8.3	248 000	33 900
67	803 400	408 100		8.5	261 900	34 700
68	822 000	413 600		8.7	268 000	36 000
69	830 800	422 700		8.9	270 800	37 600
70	849 500	435 900		9.1	276 900	39 700
71	870 200	447 500		9.3	283 700	41 600
72	893 600	457 700		9.5	291 300	43 500
73	915 800	468 300		9.7	298 600	45 400
74	938 200	480 500		9.9	305 900	47 600
75	961 600	493 300		10.1	313 500	49 800
76	984 400	503 900		10.3	320 900	51 900
77	1 003 600	510 300		10.5	327 200	53 600
78	1 017 000	513 100		10.7	331 500	54 900
79	1 024 700	514 400		10.9	334 100	56 100
80	1 028 700	515 600		11.1	335 400	57 200
81	1 031 400	517 000		11.3	336 200	58 400
82	1 034 100	518 500		11.5	337 100	59 600
83	1 036 900	519 900		11.7	338 000	60 800
84	1 039 800	521 300		11.9	339 000	62 000
85	1 042 600	522 700	↓	12.1	339 900	63 200

Source: Columns 2, 3 from Table E3 (low projection).
Column 4, no change from average for 1956-59.
Column 5, increase from 1959 at .2 a year.

Table H8

Adjustment of Low Projection for Changes in Migration of Students (Assumes No Growth in Numbers Crossing State Lines to Attend Public Colleges; Assumes Growth at Half the Overall Rate in Numbers Crossing State Lines to Attend Private Colleges)

Item	1958 actual	1965	1970	1975	1980	1985
1	2	3	4	5	6	7
1. Projected percentage growth from 1958 in full-time undergraduate enrollment in N.Y. institutions, unadjusted for migration.	0%	55%	85%	112%	129%	135%
N.Y. residents attending private institutions in other states:						
2. As allowed in projection	37 426	58 010	69 238	79 343	85 706	87 951
3. As estimated (growth ½ total rate)	37 426	47 718	53 332	58 385	61 566	62 689
4. Additional enrollment in N.Y.	0	10 292	15 906	20 958	24 140	25 262
N.Y. residents attending public institutions in other states:						
5. As allowed in projection	12 678	19 651	23 454	26 877	29 033	29 793
6. As estimated	12 678	12 678	12 678	12 678	12 678	12 678
7. Additional enrollment in N.Y.	0	6 973	10 776	14 199	16 355	17 115
Residents of other states attending private institutions in N.Y.:						
8. As allowed in projection	27 827	43 132	51 480	58 993	63 724	65 393
9. As estimated (growth ½ total rate)	27 827	35 479	39 653	43 410	45 775	46 610
10. Available places in N.Y.	0	7 653	11 827	15 583	17 949	18 783
Residents of other states attending public institutions in N.Y.:						
11. As allowed in projection	3 735	5 789	6 910	7 918	8 553	8 777
12. As estimated	3 735	3 735	3 735	3 735	3 735	3 735
13. Available places in N.Y.	0	2 054	3 175	4 183	4 818	5 042
14. Total additional places in N.Y. to be added to projection	0	7 600	11 700	15 400	17 700	18 600

Source: Column 2 from 1958 survey of migration by American Association of Collegiate Registrars and Admissions Officers.

Row 1, derived from Table H7. Row 14 is row 4 + row 7 - row 10 - row 13.

Table H9

Low Projection of Full-time Undergraduate Enrollment in New York; Lower Division and Upper Division; Adjusted for Changes in Migration[1]

Item	1965	1970	1975	1980	1985
1	2	3	4	5	6
Full-time undergraduate enrollment, without adjustment for changes in migration:					
2-year	32 000	39 700	49 800	57 200	63 200
4-year	233 400	276 900	313 500	335 400	339 900
Additions caused by changes in migration	7 600	11 700	15 400	17 700	18 600
4-year enrollment adjusted for migration change	241 000	288 600	328 900	353 100	358 500
Lower division, 4-year (60%)	144 600	173 200	197 300	211 900	215 100
Upper division, 4-year (40%)	96 400	115 400	131 600	141 200	143 400
Total, lower division	176 600	212 900	247 100	269 100	278 300
Total, upper division	96 400	115 400	131 600	141 200	143 400
Grand total	273 000	328 300	378 700	410 300	421 700

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[1] Migration change is taken to be full-time, and is applied to 4-year institutions (less than 10% of net migration was in junior colleges in 1958).

Source: First 3 rows of data from Tables H7 and H8.

Table I1

Estimate[1] of Population Corresponding to High School Graduates; State: 1952-53 Through 1984-85 (Births Beyond 1959 as in Judgment and High Projection)

School year	High school graduates	Ratio: graduates / population[1]	Estimated population corresponding to high school graduates	Sum of population corresponding to graduates 4 years
1	2	3	4	5
1952-53	118 516	.653	181 500	
-54	109 882	.655	167 800	
-55	115 191	.667	172 700	
-56	117 942	.682	172 900	694 900
-57	118 847	.664	179 000	692 400
-58	126 703	.672	188 500	713 100
-59	139 536	.693	201 400	741 800
-60	160 500	.700	229 300	798 200
-61	165 800	.707	234 500	853 700
-62	160 300	.714	224 500	889 700
-63	164 800	.721	228 600	916 900
-64	197 700	.728	271 600	959 200
-65	214 400	.735	291 700	1 016 400
-66	203 600	.741	274 800	1 066 700
-67	212 500	.747	284 500	1 122 600
-68	215 900	.753	286 700	1 137 700
-69	223 900	.759	295 000	1 141 000
-70	231 800	.765	303 000	1 169 200
-71	238 100	.771	308 800	1 193 500
-72	244 200	.776	314 700	1 221 500
-73	250 900	.781	321 300	1 247 800
-74	258 400	.786	328 800	1 273 600
-75	266 200	.791	336 500	1 301 300
-76	271 800	.796	341 500	1 328 100
-77	275 600	.801	344 100	1 350 900
-78	279 500	.805	347 200	1 369 300
-79	284 100	.809	351 200	1 384 000
-80	289 000	.813	355 500	1 398 000
-81	293 900	.817	359 700	1 413 600
-82	300 300	.821	365 800	1 432 200
-83	309 300	.825	374 900	1 455 900
-84	320 200	.829	386 200	1 486 600
-85	331 700	.833	398 200	1 525 100

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[1] The ratio of high school graduates to a corresponding population age-group for the Upstate area is used because the population age-group in New York City area is not known. If the graduation rate in the New York City area is different, the figures in column 4 are different, but the trend is not affected.

Source: Column 2 from Table E1, column 2.
Column 3 from Table A4, column 4.
Column 4 is column 2 divided by column 3.
Column 5 is sum of 4 years of column 4.

Table I2

Estimate[1] of Population Corresponding to High School Graduates; State: 1976-77 Through 1984-85 (Births beyond 1959 as in Low Projection)

School year	High school graduates (low projection)	Ratio: graduates/population[1]	Estimated population corresponding to high school graduates	Sum of population corresponding to graduates 4 years
1	2	3	4	5
1976-77	256 200	.747	343 000	1 349 800
-78	256 900	.749	343 000	1 364 000
-79	257 500	.751	343 000	1 370 500
-80	258 100	.753	343 000	1 372 000
-81	258 900	.755	343 000	1 372 000
-82	259 600	.757	343 000	1 372 000
-83	260 300	.759	343 000	1 372 000
-84	261 000	.761	343 000	1 372 000
-85	261 700	.763	343 000	1 372 000

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[1] The ratio of high school graduates to a corresponding population age-group for the Upstate area is used because the population age-group in New York City area is not known. If the graduation rate in the New York City area is different, the figures in column 4 are different, but the trend is not affected.

Source: Column 2 from Table E3, column 4.
Column 3 is half as much increase over 1958-59 actual (.693) as in basic projection; thus corresponding to the premise of the low projection.
Column 4 is column 2 divided by column 3.
Column 5 is sum of 4 years of column 4 (using Table I1 for years before 1976-77)

Note: Column 4 and column 5 for years before 1976-77 are the same as in the judgment projection.

Table I3

Projected Full-time Undergraduate Enrollment as Percent of a Corresponding 4-year Population Age-group

Year (fall)	Estimated 4-year population age-group	Full-time undergraduates			Ratio: Full-time undergraduate / 4-years of population		
		Judgment projection	High projection	Low projection	Basic	High	Low
1	2	3	4	5	6	7	8
1956	694 900	164 382	164 382	164 382	.237	.237	.237
57	692 400	166 936	166 936	166 936	.241	.241	.241
58	713 100	171 515	171 515	171 515	.241	.241	.241
59	741 800	180 863	180 863	180 863	.244	.244	.244
1960	798 200	200 000	201 900	197 600	.251	.253	.248
61	853 700	218 900	223 000	213 800	.256	.261	.250
62	889 700	231 400	238 000	224 700	.260	.268	.253
63	916 900	241 300	250 400	233 000	.263	.273	.254
64	959 200	258 300	270 600	246 800	.269	.282	.257
65	1 016 400	280 700	296 300	265 400	.276	.292	.261
66	1 066 700	297 500	316 800	281 900	.279	.297	.264
67	1 122 600	315 300	338 500	296 600	.281	.302	.264
68	1 137 700	324 600	351 400	304 000	.285	.309	.267
69	1 141 000	331 100	361 200	308 400	.290	.317	.270
70	1 169 200	344 400	378 600	316 600	.295	.324	.271
71	1 193 500	356 800	395 200	325 300	.299	.331	.273
72	1 221 500	370 100	413 000	334 800	.303	.338	.274
73	1 247 800	383 100	430 500	344 000	.307	.345	.276
74	1 273 600	396 200	448 500	353 500	.311	.352	.278
75	1 301 300	410 100	467 500	363 300	.315	.359	.279
76	1 328 100	423 800	486 300	372 800	.319	.366	.281
77	1 350 900	436 100	503 900	X	.323	.373	X
78	1 369 300	447 000	519 900	X	.326	.380	X
79	1 384 000	457 100	535 100	X	.330	.387	X
80	1 398 000	467 100	550 300	X	.334	.394	X
81	1 413 600	477 700	566 200	X	.338	.401	X
82	1 432 200	489 400	583 600	X	.342	.407	X
83	1 455 900	503 400	603 800	X	.346	.415	X
84	1 486 600	520 100	627 700	X	.350	.422	X
85	1 525 100	539 800	655 200	X	.354	.430	X
Low projection of births							
1977	1 349 800	X	X	380 800	X	X	.282
78	1 364 000	X	X	386 400	X	X	.283
79	1 370 500	X	X	390 200	X	X	.285
80	1 372 000	X	X	392 600	X	X	.286
81	1 372 000	X	X	394 600	X	X	.288
82	1 372 000	X	X	396 700	X	X	.289
83	1 372 000	X	X	398 800	X	X	.291
84	1 372 000	X	X	401 000	X	X	.292
85	1 372 000	X	X	403 100	X	X	.294

Source: Column 1 from Tables I1 and I2; columns 3-5 from Tables H1, H4, H7; columns 6-8 are columns 3-5 divided by column 1.

Note: Enrollment not adjusted for migration changes is used, as it gives the attendance trend actually used in the projections.

Table J1

Projections of Full-time Graduate Enrollment, as a Fixed Proportion of Full-time Upper Division Enrollment in Preceding 4 Years (Unadjusted for Migration); 1959-85

Year (Fall)	Full-time upper division enrollment, preceding 4 years			Ratio	Full-time graduate enrollment		
	Judgment projection	High projection	Low projection		Judgment projection	High projection	Low projection
1	2	3	4	5	6	7	8
				Actual			
1959	241,046	241,046	241,046	.10	24,620	24,620	24,620
				Projected			
1965	337,300	348,200	327,400	.10	34,000	35,000	33,000
1970	443,000	477,000	419,500	.10	44,000	48,000	42,000
1975	516,700	578,500	471,800	.10	52,000	58,000	47,000
1980	595,800	691,900	525,500	.10	60,000	69,000	53,000
1985	661,300	794,800	540,100	.10	66,000	79,000	54,000

Source: Cols. 2-4; 40% of sums of 4 years of full-time undergraduate enrollment in tables H1, H4, H7, for 1965-1985. For 1959, 40% of full-time undergraduate enrollment in 1956-1958 in table G1, plus 57,279 for 1956 (estimated as 34.7% of 165,069 full-time in 4-year institutions).